THE JOURNAL OF

MEDICAL EDUCATION

OFFICIAL PUBLICATION OF
THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

MAY 1957 • VOLUME 32 • NUMBER 5

A Medical Concerto (Presidential Address, 67th Annual Meeting).....*Robert A. Moore*

The Social Worker and the Physician.....*Silver, Stiber*

Psychiatry for Medical School Instructors.....*Dwyer, Zinberg*

Notes on Developing a General Medical Clinic.....*Ivan L. Bunnell*

University of California Medical Science Teaching in Indonesia.....*Francis Scott Smyth*

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Table of Contents

VOL. 32 MAY 1957 No. 5

WITH OUR AUTHORS V

ARTICLES

A Medical Concerto for Violin and Violincello
—*Robert A. Moore* 319

The Social Worker and the Physician — Daily Practice of a Health Team
—*George A. Silver, Charlotte Stiber* 324

Psychiatry for Medical School Instructors
—*Thomas F. Dwyer, Norman Zinberg* 331

Notes on Developing a General Medical Clinic
—*Ivan L. Bunnell* 339

The University of California Medical Science Teaching in Indonesia
—*Francis Scott Smyth* 345

The Medical Student and Foreign Languages
—*Earl Eldred* 351

EDITORIALS 360

NEWS AND COLLEGE BRIEFS 365

AUDIO-VISUAL NEWS 372

PERSONNEL EXCHANGE 395

The Journal of
MEDICAL EDUCATION

Official publication of the Association of American Medical Colleges, 2530 Ridge Ave., Evanston, Ill.

The Journal of MEDICAL EDUCATION is owned and published monthly by the Association of American Medical Colleges, 2530 Ridge Avenue, Evanston, Illinois; Phone DAvis 8-9505. Entered as second class matter January 17, 1930, at the Post Office, Chicago, Ill., under the Act of March 3, 1879.

EDITORIAL BOARD: John Z. Bowers, chairman; Stanley E. Bradley; T. Hale Ham; Julius H. Comroe Jr.; Vernon W. Lippard; Kenneth E. Penrod.

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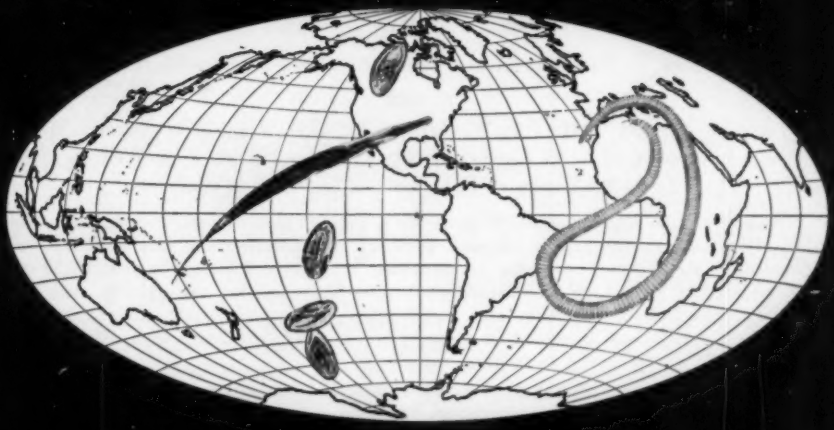

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With Our Authors

Robert A. Moore

A Medical Concerto for Violin and Violincello. Dr. Moore, the immediate past president of the Association, is vice chancellor, Schools of Health Professions, University of Pittsburgh. This article is adapted from his Presidential Address at the 67th Annual Meeting of the Association, November 12-14, 1956 at The Broadmoor, Colorado Springs, Colo.

George A. Silver, Charlotte Stiber

The Social Worker and the Physician —Daily Practice of a Health Team. Dr. Silver received his M.D. from Jefferson College in 1938. He is presently assistant professor of administrative medicine, Columbia University, and also chief of the Division of Social Medicine, Montefiore Hospital, New York. He formerly held a World Health Organization traveling fellowship in Britain and Scandinavia.

Charlotte Stiber took her master's degree in 1942 from the Simmons College School of Social Work. She is presently a social worker in the Family Health Maintenance Demonstration at Montefiore Hospital.

Thomas F. Dwyer, Norman Zinberg

Psychiatry for Medical School Instructors. Dr. Dwyer received his M.D. from the University of Chicago School of Medicine in 1942. At the present time he is an instructor in psychiatry, Harvard Medical School; a special lecturer in psychoanalytic psychology, Simmons College School of Social Work; associate visiting psychiatrist, Beth Israel Hospital, Boston; and associate director of the psychiatric service, Beth Israel Hospital.

Dr. Zinberg took his M.D. at the University of Maryland School of Medicine in 1946. He is now an instructor in psychiatry at Harvard Medical School; an instructor in psychiatry, Tufts Medical School; an instructor in psychiatry, Boston University Graduate School of Psychology; and an associate in psychiatry, Beth Israel Hospital, Boston.

Ivan L. Bunnell

Notes on Developing a General Medical Clinic. Dr. Bunnell received his M.D. in 1943 from the University of Buffalo. He is now the director of the Out-Patient Department at the Buffalo General Hospital.

Francis Scott Smyth

The University of California Medical Science Teaching in Indonesia. Dr. Smyth is the coordinator of the University of California School of Medicine and the University of Indonesia Faculty of Medicine Program. He is a former dean of the University of California School of Medicine Medical Center at San Francisco. He is a member, and former chairman, of the Association's Committee on International Relations in Medical Education.

Earl Eldred

The Medical Student and Foreign Languages. Dr. Eldred received his M.D. from Northwestern University. He is now assistant professor of anatomy at the University of California at Los Angeles. He spent a year in investigation at the Nobel Institute of Neurophysiology in Stockholm, Sweden, and was also a Markle Scholar for five years.

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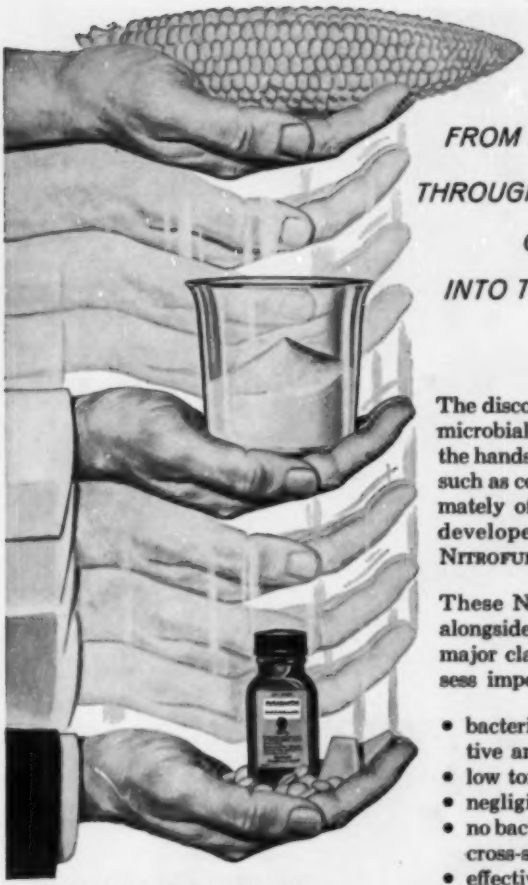

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*Dodd, M. C., and Stillman, W. B.: The in vitro bacteriostatic action of some simple furan derivatives, J. Pharm. Exp. Ther. 82:11, 1944.

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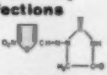

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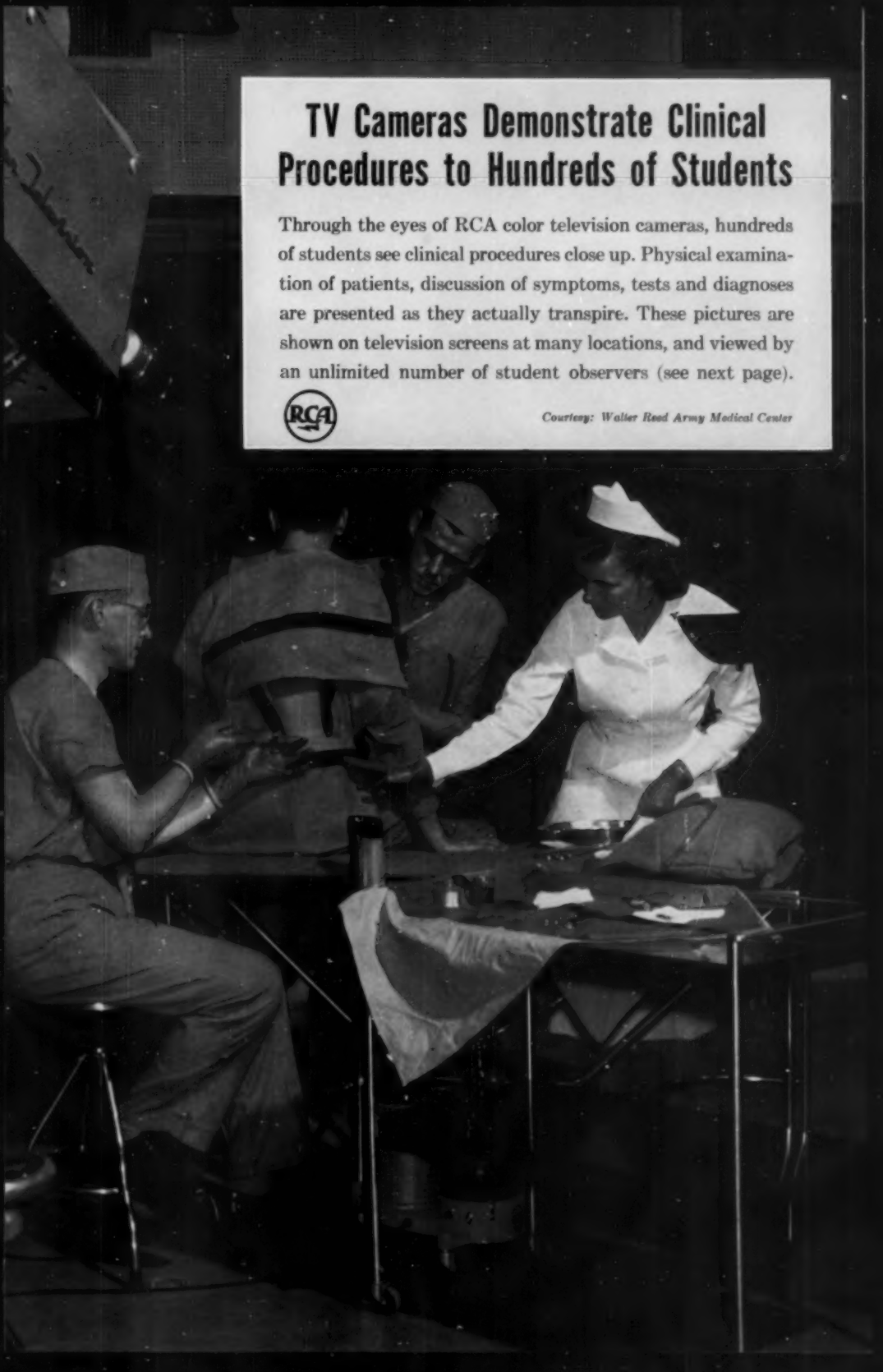

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(1) King, J. W., and Hainline, A., Jr.: Commercial Glucose Oxidase Preparations for the Detection of Glucose in Urine, Cleveland Clin. Quart. 23:212, 1956. (2) Leonards, J. R.: Evaluation of Enzyme Tests for Urinary Glucose, J.A.M.A. 163:260 (Jan. 26) 1957.

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American Medical Association—1957 Annual Meeting; June 3-7, New York.

Sixth International Congress of Otolaryngology —May 5-10. Washington, D. C.

International Congress on Dermatology—July 31-August 6; Stockholm, Sweden.

Annual Meting of the National Tuberculosis Association and the American Trudeau Society—May 5-11, 1957. Kansas City, Mo.

International Congress on Medicine and Surgery—June 1-9, 1957. Turin, Italy.

Canadian Medical Association—June 17-21; Edmonton, Alberta, Canada.

Index to Advertisers

American Optical Co. 380
Ames Co., Inc. ..... IX, 375
Appleton-Century-Crofts, Inc. III
Bausch & Lomb Optical Co. 385
Blakiston Div., McGraw-Hill Book Co., Inc. ..... Inside Front Cover
Burrough, Wellcome & Co. ..... IV, XII
Ciba 373
Eaton Laboratories VII
Lakeside Laboratories XVI
J. B. Lippincott Co. 392
Mead, Johnson ..... Back Cover
Macmillan Co. 378
C. V. Mosby Co. 390, 396
National Dairy Council VIII
Ortho XV
Parke, Davis & Co. VI
Pfizer Laboratories XI
RCA ..... between VIII & IX
W. B. Saunders Co. ..... Front cover, I
Julius Schmid, Inc. ..... Inside Back Cover
Smith, Kline & French Laboratories XIII
Taylor Instrument Co. 359
Warner-Lambert 371, 383
Year Book Pub. 394

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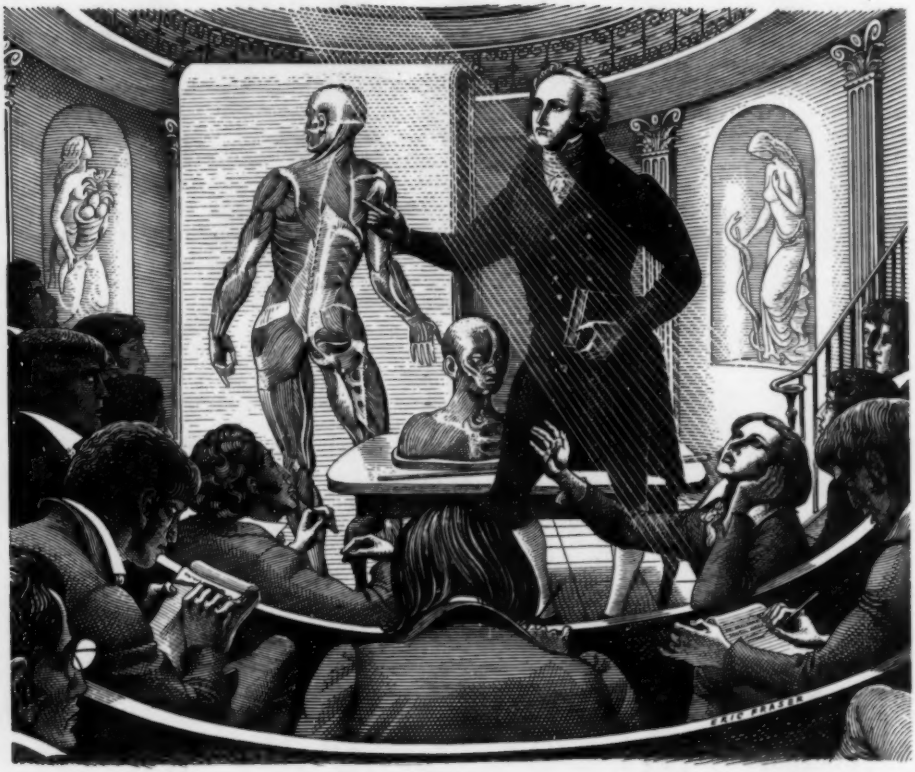

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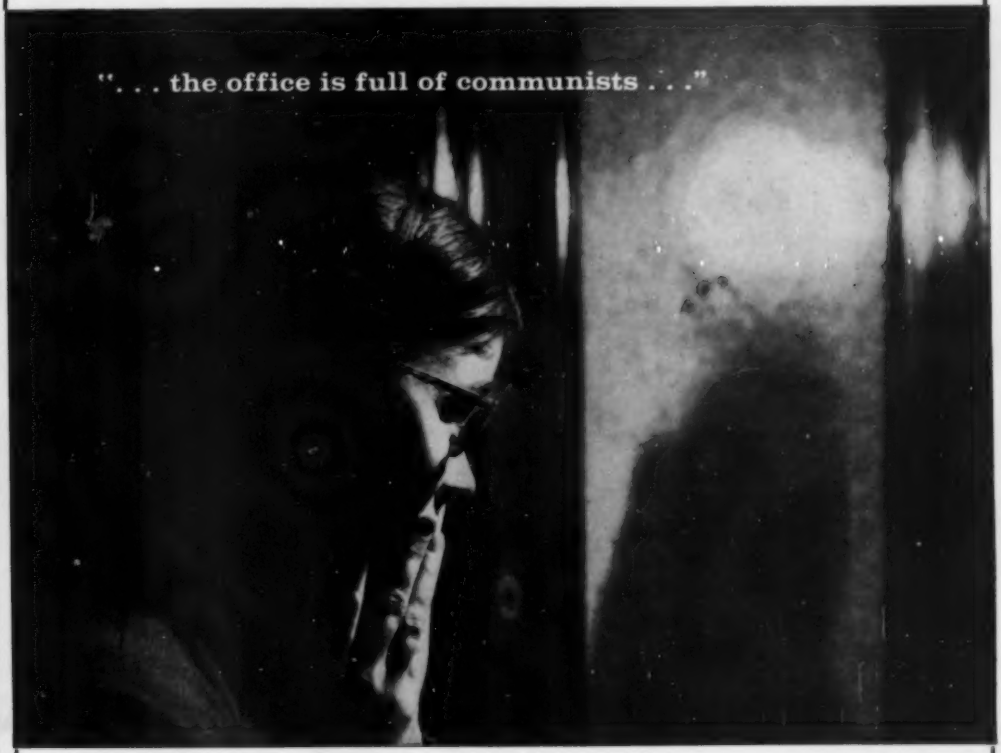

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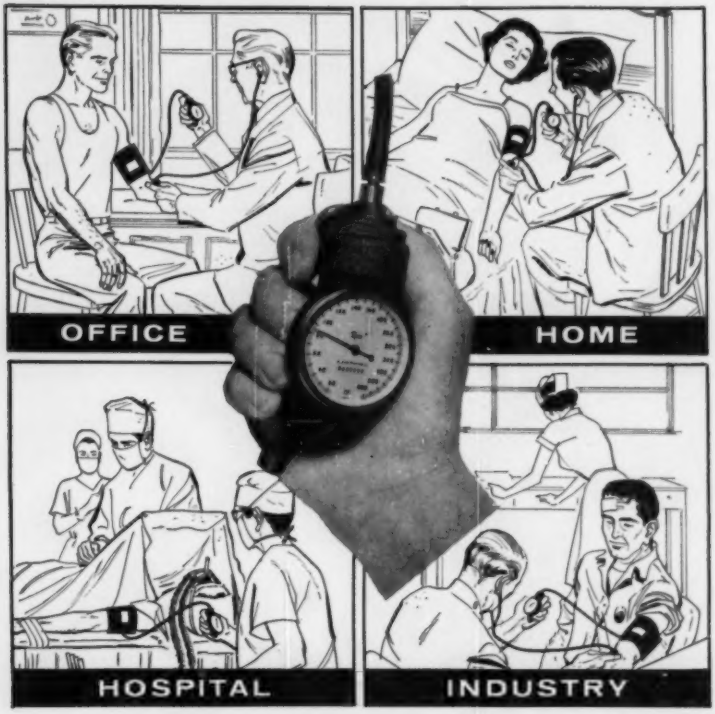

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*The American Foundation: Medical Research: A Midcentury Survey, Boston, Little, Brown and Company, 1955, vol. 1, p. XXXI.

**_Ibid._, p. 600.

Presidential Address, 67th Annual Meeting
Association of American Medical Colleges
Colorado Springs, Colorado, November 12-14, 1956

A Medical Concerto for Violin and Violincello

ROBERT A. MOORE

IT IS MY privilege in this presidential address this morning to read to you the comments of a critic of a medical concerto which has been performed and I am sure will be performed many more times, perhaps with some variations.

In some notes left by the composer, he gives us a hint of how he was influenced and why he chose the concerto form with solo parts for violin and cello. The basic decision for a concerto was made because this highly dramatic form of music permits the best effect expressible by opposed and unequal masses of instruments, and because the concerto is a mirror of human activities in depicting the antithesis of the individual and the crowd in every degree from flat opposition to harmonious reconciliation with every contrast and blending of emotion.

The composer recognized that a double concerto for violin and cello represents a strange combination of instruments but believed that these two strings when properly balanced and handled as they are in Brahms Opus 102 can provide a powerful stimulation to the soloists, the orchestra and the listener.

Even if the composer had not told us of his deliberate selection of the classical form of the concerto, it would be apparent to anyone who listened to it. The choice was made not only for basic reasons, but for emotional reasons, since the classical concerto is best illustrated by the work of Mozart composed in Vienna at about the same time that modern medicine was emerging in the Viennese school under the same royal patronage. The classical concerto is not a vehicle for the soloists to demonstrate their technical ability as prima donnas. It was the desire in this medical concerto to achieve a composition which delights in the opposition of the two instruments to each other and to the orchestra,

makes the opposition expressive, and attains just that degree of contrast in both quality and volume to have each solo instrument stand out as a separate living personality.

The orchestration of this medical concerto calls for a distribution of instruments somewhat different from that for most concertos. There are fewer first violins than second violins and there are more cellos than violins. The other strings, the wood winds, the brass and the tympani are in the usual proportions.

At the last performance on which this report is based, the conductor was Nacirema Elpoep. The solo violinist was Reh Caet and the solo celloist was Renoitit Carp. The principal first violinist and the concertmeister was Lluf Emit and his brother Trap Emit was the principal second violinist. The conductor gave a brilliant performance but at times he had difficulty getting the orchestra and the soloists into perfect harmonious balance. Perhaps it was inherent in the score, but at several points the cellos were in such volume, the remainder of the orchestra could not be heard, and as will be discussed later the balance of volume between violins and cello, both of the soloists and of the orchestra was far from perfect and certainly not what the composer had in mind or the conductor desired in a classical concerto.

The dominance of the solo violin, the still greater dominance of the cello, and the solidity of harmony were demonstrated in the introduction. First, the orchestra threw out a challenge in the shape of the figures of the first subject on the dominant. The notes seemed to say over and over again "the preservation of health." The wood winds then picked up the theme in a different key and seemed to speak "the prevention of disease." After about six bars the strings with great depth of modulation by the cellos elaborated the theme into new words of "the cure of disease." As though to prove both the identity and the unity of these three variations of the first theme the entire orchestra brought them together and the subject was fully launched.

As the dialogue within the orchestra continued briefly the solo violin entered and shortly thereafter the solo cello came in, each with variety and contrast of tone. The solo violin and the orchestra gave emphasis to the variation on "preservation of health", through teaching and research while the cellos elaborated on the key of "cure of disease" through practice. The composer was apparently using the Scarlotte principle of having the speaker—the soloist—talk with the crowd before he breaks into a monologue. This principle was even further utilized in that the two solo parts then played together, each in its own key, usually but not always in harmonious balance, but with the cello in greater volume as though to exemplify the greater importance of its theme today, but not to drown out completely the signifiance of the violin for the future.

The possibilities in the concerto of unequal masses of instruments was further utilized by the composer in placing next a dialogue between the solo violin and the orchestral violins and between the solo cello and the orchestral cellos. During the interplay between the violins, both the first and second violins playing full time would at times join, while for a bar or two the second violins would drop out as though to say I am part-time and can not take part in this segment of the dialogue. And, with the cello parts, the second violins occasionally took part. It was as though music and participation were being used to tell us there were three

groups, the solo violin and the first violins, the solo cello and the orchestral cellos, and the second violins, and that sometimes the second violins played with both the violins and the cellos depending on the bar, or theme. On the other hand, it was clear from the manner in which the themes were handed from one group to another and back that the contrast was clear and well-motivated and the harmonious fullness of the melodies indicated an essential unity of purpose but not of method.

The last notes of the dialogue between the cellos was then picked up by the solo violin, at first meditatively, and eloborated, not in the sense of demonstrating technical ability, but of weighing the relative importance of the three variations of the first subject and speculating on how to prepare for all three. The solo violin is soon joined by the solo cello and the two together worked up to a climax of extraordinary fullness of harmony.

At this point the composer drew on the polyphonic form of the concerto to have the first theme flow into the next without showing preparation for the advent of something new. The composer was conveying the concept that medicine should not be a group of isolated themes which require preparation or connecting passages to go from one to the other, but rather a blending together of all.

The wood winds in their typical plaintive notes stated the second theme and were rapidly joined by each group of instruments in sucession, until the entire orchestra was playing in unison. With one's eyes closed, the listener could visualize the totality being put together from its component parts as if to say, Health care is the care of the whole human being, with each instrument or specialist playing a part but playing together with beautiful harmony and nobility of form in the key of C major.

With this, the orchestra came to its conclusion and the solo cello impetuously entered with a development of the second theme in a new key of F major. It was soon joined by the orchestral cellos in the deep reverberating tones of this instrument.

Suddenly the trombones and horns with their specialized contribution entered with a still further development of the second theme in still a new key of A. The two groups of instruments developed their variations of the theme rapidly, and at times passionately and at times stormily. The dialogue started with the utmost energy but as it continued there were short passages drifting to the orthodox key of the second subject of C major as if yielding to a melting mood. From time to time the first theme was tenderly reiterated by the oboe and flute to focus attention on a transition from one theme to the other and the interrelations of them.

The solo violin at this point restated the original second theme in the original key of C Major with extraordinary fullness of sound. But the solo cello enters after a few bars to reiterate the variation in the key of F Major, and the two solo instruments seemed to question and answer each other. In some passages the cello with its deep tones and volume almost completely overshadowed the violin and it was difficult to hear it. In other passages, the violinist attempted to subdue the celloist with fullness of tones. In neither instance did either quite succeed and this result of failure of complete dominance by either was certainly the intent of the composer and it was attained by the conductor in this performance.

The dialogue between the two soloists was in certain passages entered

into by the corresponding instruments of the orchestra as in support of their leaders. The cellos in excellent practice with insistent force and numbers would question the manner in which the violins had played the theme and the violins would in turn respond with the clear notes so characteristic of that instrument, restate the theme in its own key and reassert its part and responsibility to develop the theme. This figurative contrast between the violins and cellos was entered into for a few notes by the specialized horns, and occasionally the wood winds would reiterate the first theme as if to say, do not forget the first theme as you play the second in different keys.

After a few trills and chords the orchestra enunciated the third theme which represented the thought of provision of health care. Immediately as the theme was set forth, the orchestral cellos played with a gusto and a volume which practically overshadowed the remainder of the orchestra and completely drowned out the violins as if to say, this theme is ours. However, in a slight lull the solo violin had an opportunity to develop the theme in the same key. This was in contrast with the different keys used by the violin and cello in displaying the second theme. The composer was presumably attempting to tell us that with the third theme there was really no difference between the two soloists. However, the greater volume of the cello made it difficult for the violins to state their case.

And so the recapitulation began in the orchestra just as the ritornello did. Slight changes in the harmonies made it possible to hear all themes at once, each from different instruments, which indicated clearly that the three themes are completely interrelated, such as the preservation of health of the whole human being through provision of care. The participation of the entire orchestra and the soloists told us that the attainment of this is not the sole responsibility of any one group, but a matter of cooperation with each instrument or group contributing a part. As was discussed previously the classical double concerto, free of demonstration of technical acrobatics by either soloist, but with unequal masses of instruments, offered an ideal means for depicting medicine. The solo in a concerto permits a transfer of a formal statement into a living and moving utterance of a personality. In this first movement each soloist did just this.

The slow movement began with a signal of two notes on the horns answered in the upper part of the scale and in high octave by the wood-winds. On the four notes then delivered, the entire orchestra built a broad and swinging melody compounded of the themes of the first movement. This was worked out as a complete tune in two parts with repeats. One part was essentially a series of scales to typify education and the other part made one feel a sense of experimentation up and down the scales and chords. At various points the soloist entered but in the first part the violin and cello did not always play the same chords and occasionally the solo violin used pizzacato chords to emphasize its position. The cello depended on its greater mass of instrument to focus attention.

A quite short, but far reaching passage by the solo violin and first violins moved in a few steps through remote keys to symbolize the reaching of this group for every possibility of expanding and developing the melody. Suddenly the cellos, solo and orchestral, broke in with the original melody in the original key and the

bows crossed the strings in an insistent fashion as if to say the melody should be as it was originally stated and not in these remote keys.

And thus ended the rendition of the medical concerto for violin and cello as an unfinished concerto. The composer left notes saying that the third movement could not yet be written as this composition was a living and moving thing and the events of the last movement had not yet transpired. He also indicated he hoped to finish it some day and hoped it would be possible to compose the third movement in allegro vivaci in almost a march theme to represent both soloists and the orchestra moving rapidly forward in step.

After this report was written someone whispered in my ear that the soloists were attempting to maintain anonymity as physicians by using assumed names. As a last word I tell you the key to the assumed names: they are simply their real names spelled backward; at the solo violin Reh Caet was TEACHER and at the solo cello—Renoitit Carp was PRACTITIONER.

Un concierto "médico" para violín y violoncello

Este trabajo es un comentario crítico—o más bien un intento de interpretación—de un concierto para violín y violoncello, a la manera clásica, compuesto por un miembro de la profesión médica. En la obra, que pretende ser como un diálogo entre el médico que enseña y el que practica, el compositor ha intentado expresar en términos musicales, a través del juego de los instrumentos, una serie de temas que, aunque específicamente conectados con la Medicina, son de interés para el progreso y bienestar de la humanidad.

* * *

Separatas de este artículo, en español, podrán obtenerse si son solicitadas por un mínimum de 25 lectores.

The Social Worker and the Physician

Daily Practice of a Health Team

GEORGE A. SILVER AND CHARLOTTE STIBER

THERE IS TODAY considerable discussion about the future role of the family doctor. A health team approach has been suggested, but usually in a restricted sense. Valuable articles have appeared, such as one on a psychiatric team,[1] and others on a team for teaching medical students.[2,3] However, what happens when a doctor and social worker work together on a team responsible for the *complete* medical care of the family?

For the past several years, in the Family Health Maintenance Demonstration,[4] a health team composed of physician, public health nurse and social worker, has been carrying on such a program. Because of the unique nature of this demonstration, description of the collaborative effort of doctor and social worker, their experiences, and the learning and sharing of roles may have value and interest for others.

The project

Briefly, the Family Health Maintenance Demonstration is a joint project of the Community Service Society, Columbia University College of Physicians and Surgeons and the Montefiore Hospital, set up in 1951 "to determine what services can reasonably be added to a comprehensive medical care program which would result in favorably influencing the health of families."[5]

A group of 150 families selected at random from among those registered with the Health Insurance Plan of Greater New York[6] and receiving comprehensive medical care through the Montefiore Medical Group comprise the study families. An equal number of matched control families is being followed through the routine Montefiore Medical Group service and will be compared for effects at the end of the program.

Initial evaluations consist of physical examination by the physician, a Cornell Medical Index and laboratory work; a scheduled interview in the home by the public health nurse concerning housing, nutrition, school and recreational activities; and a scheduled interview with the social worker, to explore personal relationships and areas of emotional strength or weakness. A Thematic Apperception Test is given the adults and a Children's Appreciation Test to children over six. The team then meets and discusses what has been found, and lays out a health plan for the family. This is followed by a family conference where the team discusses the findings with the family, and tries to gain acceptance for the health plan. The next four years are spent

implementing the plan, with the parents' cooperation. A similar final evaluation, for comparison, is also done.

The technique, descriptions of each participant's role and other details appear in the Milbank report.

The health team as used in the Family Health Maintenance Demonstration, derives essentially from the hospital development of medical practice[7] particularly as experienced at the Montefiore Hospital. In addition, the Montefiore Hospital Home Care program[8] confirmed the feeling that such a health team was basic to modern medical care. Other theoretical considerations involving changes in the training of physicians, the growth of social work and public health nursing as professions, also played a part in focusing on a health team.[4]

In the Demonstration, the health team shares responsibility for medical care of the family. Additional medical service is provided by the various specialists of the Montefiore Medical Group, on referral. The social-emotional aspects of family medical service are handled by the team itself, with the aid of a group of consultants—sociologist, psychologist, psychiatrist and health educator. These consultants offer a range of skills supplementing the health team's skills as the medical specialists supplement the family physician's skills in group practice.

Social worker's role

Division of labor within the team is based on competence, and in those "gray" areas where all the team members have some competence, as in child rearing practices, the team member to whom a patient feels closest will accept the assignment for carrying on the program. To the social worker go the majority of problems of personality difficulty that are the source of family friction. The social worker thus carries the burden of the aspects of medicine that the modern scientific physician is so often accused of neglecting. In this way the social worker fills a definite patient need—a professional person to whom the patient can talk about aspects of life and family relations that may only barely touch on medicine. The doctor himself benefits by this in that he not only has an "alter ego" who helps in this otherwise uncovered area, but he becomes more aware of the existence of the area.

Primarily, the team form offers effective channels of communication. The lines of communication are drawn together *informally* in the daily contacts of the professional people. *Formally* there are scheduled team conferences weekly. There are in addition, family conferences (the team with the parents) other times. This arrangment makes it possible for ideas and philosophy as well as information to be exchanged.

Weekly conferences with psychiatrist

The individual team members also have weekly conferences with the consulting psychiatrist. These meetings are broadly supervisory, providing background for the understanding of emotional problems as well as specific psychodynamics in particular cases, and opportunity for discussion of the current handling of cases. The point of emphasis for the social worker will naturally be different from that of the physician in these supervisory conferences. But the agreement in approach between social worker and psychiatrist is bound to be reflected in the conferences between psychiatrist and physician or psychiatrist and nurse. This in turn

facilitates movement toward desired goals.

Of the working week therefore, as much as five hours of *each* professional worker's time may be devoted not to direct patient care, but to *communication.*

The fruits of the communication are the benefits to the patient derived from added information the doctor gets, and the added service of the social worker. The social worker's role as it emerges therefore, has the following aspects:

(a) Preventive medicine, directly, through the intervention in the patient's life situation,

(b) Preventive medicine, indirectly, through influencing the attitude and responses of the physician,

(c) Therapy directly through interview and conference with patient and/or family,

(d) Therapy, indirectly, through influencing the therapeutic aims and methods of the physician.

In temporal sequence, the doctor and social worker talk together first at a team conference. They have both seen the family members by this time. The interchange has two phases: another viewpoint on known material, and the revelation of new information or new insights—on both sides.

Examples

For example, the fact that Mr. X drinks to excess is brought out by both doctor and social worker, from both Mr. and Mrs. X. At the team conference, the discussion ranges around the need for getting treatment for Mr. X. The physician logically points out that pressure ought to be brought to bear to get Mr. X into treatment for his alcoholism. The social worker points out that Mr. X is a uniformed servant of the city. He is in dread of exposure as a "psychiatric" case, and will leave the demonstration if pressed to get treatment. Insistence on therapy—or even referral for therapy, would undoubtedly break this family loose from the program, thus denying the mother and children access to the doctor and social workers. Conceivably it might even result in a broken home, the father separating himself in misguided self-protection from this threatening situation. This social worker has played her part in helping to delineate the limits within which it is possible to work with this family.

On the other hand, there are novel insights or pieces of information that can be brought up at such team conferences. Mrs. Y is very neurotic and accepts the fact. But she doesn't want the doctor to take this as the inevitable diagnosis each time she appears for care. She wants to be evaluated on the current physical signs or symptoms and justifiably so. To her, a diagnosis of serious import is more palatable than recurrent guilt about neurotic behavior. Her hesitations about accepting the doctor's diagnosis and treatment will be told to the social worker and can be passed on to the doctor.

In both these instances, the basic material is known to both doctor and social worker. It is *perspective* that is different.

A third type of situation is one in which qualitative evaluation of the same information by doctor and social worker may be quite different. Mr. and Mrs. Z relate a detailed account of an obviously distorted, immature sex relationship, in which after two years of marriage, the marriage has not been consummated. But neither has any complaint, both express satisfaction with the status quo, and there is only a suspicion that neither is really satisfied. Here the

temptation is to let sleeping dogs lie. But it may be that the potential explosiveness of the situation calls for action.

On the other hand, a mutually satisfactory relationship in effective balance—satisfying basic needs—need not be disturbed. In the N family, Mrs. N is aggressive and domineering. She has bullied Mr. N into accepting a sex role that is also distorted and immature. But he is satisfying his personality needs in this relationship, as she is. The situation is stable and in equilibrium—the health team should not disturb it. The team conference must discuss and evaluate each family situation and take considered action.

Interim conferences offer continuity of exhange of information about families. The physician imbibes some of the social worker's point of view and interest, and sees the impact of illness on a family in other than chemical or physiological terms. Family problems tend to become truly the doctor's domain. Instead of shutting the doctor off from social problems by her special interest and concern (a view sometimes offered), the social worker tends to introduce the doctor to these problems and set him to dealing with them.

The social worker may become directly involved in the medical care of the patient. The selection of a time for elective surgery in a child, the emotional preparation for surgery represent decisions in which the social worker plays a part in medical care services. But outstanding is the part the social worker plays in what might be termed "every-day psychotherapy." This is truly preventive service, in that the families are guided in situations that would not ordinarily come to professional attention, and before the disease becomes "fixed."

The Commonwealth Fund has explored the possibility of training general practitioners to accept some psychotherapeutic responsibility.[9] This is suggested only partly to alleviate shortages of personnel. It is logical to expect that by involving this large body of physicians in carefully controlled aspects of psychotherapy and making them aware of psychodynamics and psychotherapeutic needs, the scarce skills of psychiatrists could be preserved for the seriously ill, yet the less seriously ill could be helped too.

Physician benefits

In the day-to-day operation of the program, the physician benefits in other ways from the social worker's activities. The social worker may take on neurotic patients who need to talk, and who ordinarily take more than their share of a busy physician's time. Indirect benefit may result from the fact that such ventilation actually reduces medical demand.

The health team as a modern equivalent of the family doctor, is in a much better situation to accept such responsibility. The social worker, together with the psychiatrist consultant, makes it easier for the team to discharge this obligation. Of course, severe psychoneurosis, character disorders and psychosis, when diagnosed, would still be referred to appropriate agencies.

Key word is "prevention"

It is a long way from the days M. A. Cannon describes[10] when "medical social work was sold to many hospitals as an economy, because it would save giving free care to people who could pay." The role of the social worker has passed beyond even the definition of Bartlett,[10] that it is

"primarily concerned in aiding the patient to meet the problems presented to him by the ongoing medical situation." The key word today is *prevention,* and the role of the social worker in the health team is to seek out potential sources of disaster that lie within the personality of individuals or family relationships, and attempt to modify the situation favorably. It may mean working with the child rather than the disturbed mother, the well husband rather than the sick wife. In other words, strengthening the supporting health structures as well as helping to treat diseased ones.

The existence of a social worker on the team, the uncovering of information for the first time so that it is seen and examined by the patients themselves—(even if not accepted by them!) makes for the possibility of change and help. A well-to-do intelligent professional man began to make eventually successful efforts to restore more satisfactory relations with his wife after the routine interview. Obviously, the internal situation was "ripe" for such a break, and he had no doubt been weighing such action for some time previously. However, the opportunity to present his dilemma was a useful trigger.

In another family in which mother and father are both professional people, the necessity for maintaining a picture of themselves as omniscient and perfect resulted in professed denial of the disturbed behavior of their oldest child. The team interview and discussion never resulted in any admission on their part that the child *had* a problem. But while questioning the team's comments and denying the facts, the parents changed their attitudes and approach, and by so doing helped the child greatly.

Small group discussions

In addition to individual conferences with patients, the social worker participates in small group discussions. These groups are organized around similarity of interest—young children, adolescence, school problems. The discussions initiate or reinforce the substance of individual conferences. The health educator consultant is available to help organize groups, supervise leadership and suggest procedures, films, literature and other educational material.

Certain obstacles the social worker has in carrying on her activities derive from the newness of the concept, others from the association of the old role in hospitals or family agencies. For instance, the new role of prevention arouses certain reluctance in colleagues, whose attitude may be "don't trouble trouble till trouble troubles you." On the other hand, the social worker may be seen by patients as an X-ray-eyed sorceress. The patient may feel this person is looking for the chink in the armor, armor that has been built up so carefully and at such great emotional cost. Patients are afraid they'll be weighed and found wanting—tagged as failures as husbands or wives or parents.

To these attitudes, the team members must set up careful defenses. Acceptance of each other's competence, and the importance of the preventive role is a sine qua non.[11, 12] The physician, whose prestige is so great in our culture, must help develop positive feelings in the patients toward the social worker. The patients must be told the truth about the social worker's job of course, but the emphasis must be on the possibilities of *helping,* not of *finding out.*

This has been an effort to describe a new role for the social worker within the framework of an organ-

ized type of medical practice. The medical social worker participates as a member of a health team on equal terms with a physician and a public health nurse. To her customary role in helping people is added the possibility of helping people *before* they are in acute distress. The social worker is essaying something new in reaching out to families before they come in for, or even know they need, help. While customary for physicians, it is a new role for social workers.

The social worker can be of special value to the practising physician in another way. In view of the changing nature of medical practice and education, the social worker may be able to restore the guidance and advisory aspects of medical practice lost in scientific advance.[13] The social worker may also be playing an increasingly important role together with the physician in delimiting the role of the psychiatrist, by demonstrating the place of a health team in everyday psychotherapy.

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El empleado de la Asistencia Social y el médico

Hay a menudo discusiones sobre el papel futuro del "médico de familia", y en estas discusiones la función del empleado de la Asistencia Social *(social worker)* ha sido frecuentemente un factor. En el presente trabajo, el Dr. George A. Silver, Jefe de la División de Medicina Social del Montefiore Hospital (New York), y Charlotte Stiber, *social worker* al servicio de la misma institución, describen lo que sucede cuando un médico y un empleado de la Asistencia Social trabajan juntos asumiendo responsabilidad por la atención *completa* de una familia. Se trata de un plan llamado *Family Health Maintenance Demonstration* llevado a cabo, como proyecto colectivo, por la "Community Service Society", el Colegio de Médicos y Cirujanos de Columbia Univ. y el Montefiore Hospital. Esta empresa fué iniciada en 1951 con el objeto de "determinar cuáles son los servicios que razonablemente podrían ser añadidos a un programa de atención médica *comprensiva*, que pudieran tener un efecto favorable en lo que se refiere a la salud familiar". Su área de trabajo abarca 150 familias seleccionadas entre las registradas en el "Health Insurance Plan" de Nueva York, las cuales reciben tratamiento médico *comprensivo* a través de dicho grupo. Este consiste, en resumen, en su fase inicial, en un reconocimiento físico por un médico; análisis de laboratorio; una entrevista a domicilio, hecha por una enfermera de Salud Pública, sobre condiciones de vivienda, alimentación, escuelas y actividades de recreo; otra entrevista, con el

social worker, a fin de explorar las relaciones personales y las zonas de tensión emocional en el seno de la familia; y ciertos *tests* psicológicos para adultos y niños. Luego tiene lugar una reunión del "equipo" en la que se discuten los datos encontrados por cada miembro y se esboza un plan de "salud" para toda la familia. Sigue una conferencia en que el "equipo" discute todo ello con la familia, a fin de ganar aceptación del dicho plan, que ha de extenderse durante un período de 4 años, y cuyos resultados son valorizados más tarde por el grupo. Se describe en este informe detalladamente cómo funciona en la práctica dicho "equipo", cuáles son las ventajas de la colaboración y cuáles los problemas que esta suscita. El énfasis está en el nuevo papel del *social worker* dentro del marco de una organizada práctica médica. El *social* worker participa como miembro del "equipo" en términos de igualdad con el médico y la enfermera, y a su labor usual de ayudar a los necesitados es añadida la tarea de ayudar *antes* de que se hallen éstos en una situación de crísis. En un período en que está cambiando la práctica y la educación médicas, el empleado de la Asistencia Social quizá podría contribuír a restaurar la función del médico como guía y consejero, que tan disminuída quedó en la era de la Medicina científica.

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Separatas de este artículo, en español, podrán obtenerse si son solicitadas por un mínimum de 25 lectores.

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77 Tons Is Enough . . . .

The American-Korean Foundation and the United States Army Medical Service have announced the discontinuation of their joint project of shipping medical books contributed by individual physicians, medical schools, hospitals and state and local medical societies to Korea.

Books should not be sent to the Sharpe General Depot in California as in the past for facilities no longer exist for packing and transshipping to Korea.

Dr. Howard A. Rusk, president, American-Korean Foundation, said "the response has been so generous that further contributions are not needed." As a result of this program, Dr. Rusk stated, over 77 tons, valued at $76,000 of medical texts, references and periodicals have been shipped to Korea for distribution to Korean medical schools.

Psychiatry for Medical School Instructors

THOMAS F. DWYER AND NORMAN ZINBERG

THIS PAPER DESCRIBES a course in psychiatry developed for the surgeons and internists responsible for the clinical teaching to the second year Harvard medical students at this hospital. The aim was to direct the teaching of these instructors toward a greater consideration of personality factors in patients. Increased attention is being given to the need for integration of psychiatry and medical training, and experiments to achieve this have been described.[1-11] Reports on additional psychiatric training for the medical faculty as one solution to the problem have not come to our attention.

Psychiatry, and particularly psychoanalysis, developing primarily outside the main stream of medical progress, has for a number of years been moving into closer alliance with medicine. Especially in general hospitals, psychiatrists have gained experience in learning what part of psychiatric knowledge is useful to medicine generally, and how it may be taught.[12-21] Since 1946, when the Department of Psychiatry was organized at Beth Israel Hospital under Dr. Grete L. Bibring, a special interest and activity of the department has been to study and apply the methods by which basic principles of dynamic psychiatry can be taught to physicians who are not psychiatrists and applied by them in their practice.[12,13] Experience derived from this study was an essential factor in the initiation and completion of the experiment in teaching herein reported.

Historical development

Harvard Medical School uses four Boston hospitals for the clinical teaching in the second-year course in history taking and physical diagnosis. The course comprises 48 three-hour periods divided equally between medicine and surgery. Since 1951, six of these periods were made available for psychiatric teaching to the students.

The psychiatric departments of the teaching hospitals were allowed latitude in the manner in which they used the allotted time. This paper deals only with the program at Beth Israel Hospital. During 1951, the psychiatric sessions with the students were conducted as seminars by a psychiatric instructor with medical instructors present at some of the meetings. In 1952, for the purpose of greater integration, the medical and surgical instructors were explicitly invited not only to attend, but also to share some of the teaching in the "psychiatric" sessions. The students who interviewed and examined a patient before the small group were given techniques for eliciting and evaluating physical and psychological data in the same session. In 1953, this procedure was essentially repeated with some further integration of teaching as the instructors had ad-

ditional experience in working together as a team.

In periodic meetings of all instructors to evaluate the effectiveness of the teaching, the medical and surgical instructors expressed a developing awareness that in their clinical teaching to the students, they paid less attention to the "whole patient" than in their own practice. Their initial explanation of this was that lack of time prevented them from considering personality and social features in more than a cursory manner. Further discussions around this point, however, made it apparent that a different factor was operating; although in their own practice, the instructors intuitively made and used personality evaluation, they were often unable to describe these impressions explicitly because of a lack of systematized knowledge of personality. This aspect of medical practice was thus omitted from their teaching, giving the students a distorted picture of how an experienced physician functions.

The psychiatric teaching had been added to the second year course, partly, to correct such distortions. After the third year of such teaching, however, it seemed evident to the instructor that six isolated psychiatric sessions would not alter significantly the basic approach to patients that the student was learning in his much more frequent and vital contact with the medical and surgical instructors. Even when the psychiatric periods were truly joint affairs shared by the psychiatric and other instructors, the students still tended to separate their "psychiatric" and "medical" approaches to the patient.

Consideration of these factors led to the plan to set up a course that would give the medical and surgical instructors a systematic training in some basic elements of psychiatry that had not been part of their own medical training. The medical and surgical instructors initiated the request for such a course after sharing in the joint teaching experiences, and realizing that there was a body of psychiatric knowledge which could be useful in their medical practice. The expressed aim of this course was to improve their teaching to the students; there was neither expectation of, nor interest in, their teaching psychiatry as such.

Considerations in teaching

Two members of the department of psychiatry undertook to work out the details of the course to the medical instructors. These psychiatrists had taught medical students in the joint sessions with the medical and surgical instructors, and also had several years experience in the department's special program of teaching psychiatry to nonpsychiatric physicians. This experience influenced their decision toward a systematic, theoretical presentation illustrated by case material. It was believed that without an outline of the essentials of dynamic psychiatry, clinical material would be of little permanent use no matter how interesting.

To support the conviction that a sufficient theoretical knowledge could be imparted to non-psychiatric physicians was the several years experience of the department in developing techniques and content of teaching "medical psychotherapy." The latter is a well defined psychotherapeutic approach elaborated specifically for the use of the nonpsychiatric physician, and contrasts with psychotherapy applied by the psychiatrist for definitely neurotic disorders.[18] The method provides the physician with the means of recognizing the leading psychological pat-

terns of his patients and utilizing this knowledge in management toward specific goals, without attempting substantial personality changes.

Much of the material, in any course in psychiatry, involves areas that are emotionally weighted to a degree that may interfere with learning. An additional difficulty requiring consideration in the present teaching was the fact that the "students" were physicians of status who had not been students in a formal sense for many years. These factors, plus the nature of the already existing relationship between the instructors contributed to the decision that the psychiatric instructors would not make use of any "group techniques" for educators, elaborated by Leo Berman and others in recent years.[22] If emotional resistance to the course material impeded learning, it was intended that this be recognized and coped with by altering the method of presentation, the content, or by other methods short of a group discussion of the emotional reactions of the participants. It was decided by agreement of all participants that the meetings would take the form of seminars.

Description of the course

There were three medical and seven surgical instructors in the first year of this teaching. To the original group were added two medical and two surgical instructors in the second and third year. The course met evenings for 1½ hours weekly for approximately 10 weeks each year.

Content: A systematic presentation of personality development based on psychoanalytic psychology was made. Normal development was emphasized, but neuroses and psychoses were discussed in sufficient detail to illustrate the contribution of early childhood conflicts to these disturbances as well as to adult character structure in the normal.

The course began with hysterical neurosis and the character formations thought to be primarily based on conflicts of the age period 4-6. Illustrative case material on the hysterical personality was used to form a bridge between the theoretical and practical, the unfamiliar and familiar. All these doctors were acquainted with the picture of the emotionally labile patient in their office. Using the physicians' own observations, it was possible to sketch a more detailed picture of such patients, which included consistent patterns of behavior. The next question —what lay behind such personality features developmentally—led naturally to a discussion of the theoretical.

In subsequent meetings, the earlier periods of development, particularly those having to do with the child's training for sphincter control, and with the vicissitudes of the early feeding relationship with mother, were discussed in terms of their effect on later personality development.

The concepts of Ego, Superego and Id were defined and returned to throughout the course as the instructors attempted to relate the clinical pictures that were being discussed to a theoretical scheme. The defensive functions of the Ego were given particular attention (as related so directly to adult character formation). The greater prominence of some defense mechanisms in certain personality types was illustrated, for example, projection in paranoid types. Wherever possible case material contributed by the participants was used. There was emphasis on the meaningfulness of the everyday behavior of patients in their contact with physicians. A patient was oc-

casionally interviewed before the group to demonstrate some of the principles being discussed.

Throughout the seminars, the complicated nature of the subject matter was emphasized as was the fact that personality understanding cannot be reduced to any simple standard formula. The teaching reenforced this point of view by avoiding oversimplification and over-generalization and by repeatedly emphasizing the still imperfect understanding of personality factors. The fact that this was a joint venture and an experimental one was frequently brought to the attention of the group. The aims were periodically re-defined: (1) to provide a framework within which behavior and personality development might be understood in a more systematic way, and (2) to find ways to apply this knowledge in the management of medical patients.

Both psychiatrists were present at all meetings although not always for the entire session. At each meeting, one served as the principal teacher and the other intervened when he felt a point needed clarification, or that anxieties in the listeners had begun to interfere with learning. The experimental nature of the teaching and particularly the probability of emotional reactions to the content contributed to the choice of this method.

Responses to the course

Only the more general or prominent reactions to the course are reported. The psychiatric instructors met at least briefly between each session to evaluate trends; and teaching in subsequent sessions was altered according to estimates of the reactions of the participants. There was, however, no systematic recording of the teaching sessions, nor detailed analysis.

The sustained attendance through three years, and the recruitment by first year members of additional candidates for the subsequent years, was observed as one indication of positive interest. Of those few occasions where attendance was off (3-4 trainees present), examination of previous trends in the teaching often suggested a probable reason. The factor most frequently held responsible by the psychiatrists was an excessive presentation of theoretical and therefore unfamiliar material, and adjustment was made with a temporary greater emphasis on clinical cases.

There were, periodically, negative reactions to the teaching material concerned with the psychosexual development of the child. This had been anticipated, and the psychiatric instructors were prepared to deal with anxiety in this area by a variety of means, for example, by explicitly recognizing that all of us as adults have taboos in relation to these childhood interests. The indiscriminate application of what was being learned to oneself and one's family would most frequently lead to faulty conclusions, it was stated, and application was diverted to case material.

The seminars rarely became argumentative, yet the members acted freely in expressing their objections or criticisms or insistence on understanding. Concern about misapplying psychiatric knowledge and thereby upsetting a patient or the opposite belief that the application of psychiatric information would have no effect on a patient, were two of the general responses explored in a limited way to their irrational sources.

Some members consulted the psychiatrists outside of the teaching sessions on the meaning of observed behavior in their own children. The quality of these requests for help suggested that they arose primarily

from a conviction that further information would be useful to them, rather than from anxiety stirred up by the course. This kind of consultation with the psychiatrists was practically nonexistent in this group of physicians before the teaching began.

The participants spontaneously discussed observations they made each day on their patients, and tried to understand them in the light of the psychiatric presentation. As the course progressed, the illustrations advanced became more and more appropriate to the material being discussed. This was another measure of the members' increased understanding and ability to apply what they were learning.

The psychiatric instructors had had contacts with most of the participants prior to the seminars in other teaching situations, at lunch, at hospital meetings or rounds. As these contacts continued, there was a noticeable change in the character of questions the surgeon and internist asked the psychiatrist about patients, first in the direction of supplying a psychologically richer picture of the patient, and secondly in the insistence on arriving at some comprehensible and useful picture of the patient. Besides these casual discussions, there were more thorough conferences between surgeon or internist and psychiatrist on individual cases that were presenting problems in medical management. Wherever possible, the material from these individual conferences was brought back to the larger group.

Changes in the teaching to the students

The primary aim of the course was to assist the medical and surgical instructors in their teaching to the second year medical students, yet changes in this direction due to the psychiatric teaching were most difficult to evaluate. This has to be expected, and only several years of experience and observation will allow more definite conclusions.

As had been stated at the beginning of the course, and repeated throughout the seminars, the purpose of the teaching was not to give the members psychiatric information which they would in turn directly impart to the students, but rather to improve their own orientation, and thus affect their teaching to the students in more subtle ways. The changes that were expected, therefore, would not be gross or easily observed, but would probably consist in a shift of emphasis.

The psychiatric instructors (six, including four who had not participated in the teaching of this course) who taught the second year students in joint sessions with the surgeons and internists before and after the completion of the first year's psychiatric course, felt that there was increased attention on the part of most of the instructors to personality features of the patient. For example, a student's difficulty in obtaining an adequate history was quickly picked up and discussed by the medical instructor as a reflection of certain personality features of the patient, which in turn had implications in the approach to the patient and in the further management of the case.

One of the clearest kinds of change due to the course was the increased understanding on the part of the medical and surgical instructors of the anxieties of the students in their first contacts with patients. In this area, the instructors seemed not only more perceptive, but much more ready to give the students support in coping with their anxieties, for example, a student's undue concern

over inquiring into intimate details of a patient's life. This had been discussed and understood as a problem that did not only trouble the young student, but also many experienced physicians and that could nevertheless be managed by other means than denial. One aid was to keep perspective on the purpose of the medical history and examination, i.e. on the essential function of the doctor in this specific situation. The good teacher of course has always helped students in such areas on the basis of his own inner freedom, yet many students at this critical point in their medical training are taught by instructors who, because they deny their own emotional reactions, unwittingly present this as a model to the students. The doctor certainly must not become over-involved in his feelings for his patients. It would seem a significant improvement if he developed the freedom to become aware of his own feelings and those of the patient, and still retain perspective on his relationship with the patient. Instead the doctor frequently develops defenses that interfere with his useful sensitivity to the patient's feelings. We have observed with others the decreasing awareness of the feelings of patients in medical students and house officers during the period of their training. The first year student reports on a patient he has seen; the fourth year student discusses "a coronary" or a "liver."

The medical and surgical instructors' own evaluation of the effects of the psychiatric course on their teaching was reported at a conference of all instructors. The most general effect attributed to the course was that all of the teaching to the students had been much improved. They did observe that they were now more inclined to introduce personality features in discussing a case, and they especially stressed their increased understanding of the student's emotional reactions to his first contact with patients, and to his low position in the hospital hierarchy.

Another generally reported result of the course for the participants was an increased understanding of their private patients. Although this diverged from the primary aim of the course, it was a positive development that in turn reenforced what had been learned in the course.

All participants felt, after the first year, that the course had raised questions without giving sufficient answers, and expressed a desire for more information in a similar course in subsequent years.

Observations and discussion

This is a transition period for the teaching of psychiatry in medical schools. It seems likely that in the future, the student will have a basic training in psychodynamics as thorough as his present training in anatomy or physiology. When this is achieved, it may no longer be necessary to offer special training in dynamic psychiatry to the student's clinical instructors. At present, however, the sensitivities to human behavior the student brings with him to medical school, may be dulled during his medical training rather than heightened. Under stress from his emotional response to the peculiar intimacy and responsibility that belong to the doctor's role, he turns for help (mainly in silence) to the doctors he can see managing patients, his clinical teachers. It seems unfortunate that these models for the student may omit from their teaching considerations they include in their medical practice, thus unintentionally providing the student with an inaccurate picture of how a doc-

tor functions. The student, eagerness for help intensified by his anxieties, tends to identify with the model presented him and to develop some rigid and defensive type of bedside manner (which under favorable conditions he may be able to unlearn more or less successfully after he begins medical practice).

The student's anxieties and confusions with patients may be diminished if he himself receives early a thorough training in psychodynamics, and especially if he receives help with his own reactions. His clinical instructors will always remain especially important models, whose influence may reenforce or weaken these gains.

This training of instructors is at least the solution of one part of the problem of teaching the student comprehensive medicine. The area of the student's use of his clinical teachers as models, deserves further study which may throw light on other present-day concerns of medical education, e.g. the loss of interest in general practice during medical school training (from 92 per cent at the first year to 41 per cent of the fourth year students, in a 1954 poll by the Massachusetts Academy of General Practice.) In at atmosphere of genuine cooperation, and with the common goal of improving the student's training, medical faculties might find it useful to clarify for themselves the subtler effects of their teaching methods.

Summary

An experiment on one aspect of the problem of integrating psychiatry into the medical school curriculum is described. The medical and surgical instructors responsible for the physical diagnosis course to one group of second year Harvard students, attended an annual course in psychoanalytic psychology. These teachers were considered in the experiment as models for the student's attempt to master clinical medicine, and the aim of the psychiatric teaching was to assist the teachers toward a more explicit presentation of "comprehensive medicine."

Some of the special considerations that appear to need attention in teaching a course in psychiatry to a group of established and experienced doctors are discussed.

Observations made in the course of this study suggest that the student's first contact with patients is a crucial event, and that the circumstances surrounding this encounter may influence his further development as a doctor in a number of specific ways. This seems an area inviting further investigation. Such teaching in no way lessens the need for continued improvement of content and method in psychiatric courses for the medical students.

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Un curso de Psiquiatría para instructores médicos

En este trabajo se describe detalladamente un curso de Psiquiatría designado para cirujanos e internistas encargados, en Harvard, de la enseñanza clínica de estudiantes de segundo año. El objectivo de este curso fué orientar la enseñanza hacia una mayor consideración de factores relativos a la personalidad de los pacientes. Especial énfasis se puso en destacar la necesidad de integrar la educación psiquiátrica y la médica. Los procedimientos y experimentos aplicados en ese proceso, así como las reacciones que suscitaron en los que participaron en el curso, son discutidos en este artículo. Los autores, ambos instructores de Psiquiatría de la Escuela de Medicina de Harvard, y psiquiatras del *Beth Israel Hospital*, señalan al concluir que la actual enseñanza de la Psiquiatría en las Escuelas de Medicina se halla en un período de transición. Es probable que, en el futuro, los estudiantes tengan una preparación básica en Psiquiatría tan sólida como la que tienen ahora en Anatomía o Fisiología, y cuando esto sea un hecho, ya no será necesario ofrecer cursos especiales en Psiquiatría dinámica a los instructores clínicos de los estudiantes.

Notes on Developing a General Medical Clinic

IVAN L. BUNNELL

IN HOSPITALS across the country there has developed a new and lively interest in outpatient teaching. The impetus for this renewed interest has been supplied by experimental programs in medical care and student teaching, among the most interesting of which are those at Cornell University, the University of Oklahoma, Western Reserve University and the University of Colorado. Each of these programs has been generously supported by the Commonwealth Fund and has emphasized certain basic principles of patient care and student teaching. Stimulated by these developments in the teaching of ambulant medical care, the staff of the Buffalo General Hospital agreed in September 1954 upon reorganization of its own outpatient teaching program. The present report is a description of the way in which this revision was accomplished, and an account of one full year of its operation.

Since the program was developed by the adaptation of ideas from other clinics to local needs it has not involved a unique approach to the problem of patient care or of student teaching. The chief justification for this report is to document the establishment of a General Medical Clinic in a private teaching hospital in which the sole subsidy, generously made possible by the Hartford Foundation, was the salary for the clinic director. No other personnel were hired, nor any construction or major remodeling undertaken, and yet the features of outpatient care and teaching considered essential have been achieved. The compromises with theory necessitated by consideration of locally unique problems and resources have not impaired the essence of the program, and have in fact made it more acceptable to the medical staff. Possibly, this account will encourage other teaching hospitals to embark on similar programs without fear that the cost in terms of men and money will be prohibitive.

The program, which was evolved with the active participation of the attending staff, was built upon four principles:

1. ***RESPONSIBILITY FOR CARE***
   Over-all responsibility for a patient's care should reside in one doctor, or one team of doctors.
2. ***CONTINUITY OF CARE***
   This responsibility should be maintained over a significant length of time.
3. ***COMPREHENSIVENESS OF CARE***
   Medical care should be as comprehensive in its scope as possible.
4. ***CONCERN FOR THE PATIENT AS A PERSON***
   The entire environment in which medical care is provid-

ed should reflect a concern for the patient as an individual.

These principles were applied in our outpatient department through several modifications in clinic form and atmosphere. These are described below.

Formation of a general clinic

The Buffalo General Hospital Out-Patient Department, like so many others, had evolved over the years into a heterogeneous collection of 38 largely autonomous clinics, of which 13 were medical subspecialty clinics. The only nonspecialized unit was a small teaching clinic where patients received initial workups.

It seemed that, in reorganization, the first basic need was the establishment of a strong General Medical Clinic as the core of a teaching program. In order to provide an initial patient load for this new clinic, six existing medical subspecialty clinics were relieved of their responsibilities for continuing care of a large number of patients and converted, in effect, to consultation clinics. The integrated clinics were Cardiac, Chest, Gastro-Intestinal, Hypertension, Obesity and Metabolic Clinics. They were chosen for two reasons:

(a) they represent areas of medical care covered by many internists in their office practice and,

(b) over the past several years their combined patient load approximated that which the projected General Medical Clinic could assimilate.

The patients derived from these six clinics, plus patients coming for the first time to the O.P.D. were assigned to the General Medical Clinic, which was charged with responsibility for the initial workup and continued comprehensive care of this group of patients. During the first year, 36 senior medical students and 36 attending physicians, working in teams, provided the care for the patients in this clinic. Each student was assigned to two clinic sessions per week. At each session, each attending physician was responsible for two students.

Within such a framework, the senior student was given the main responsibility for the patient's medical care, and characteristically he accepted this responsibility with alacrity. He interviewed the patients first, and had his examination, impressions and recommendations checked by his attending physician. Since the bulk of patients have chronic complaints and live within easy commuting distance of the hospital, the student could follow most of his patients throughout his stay in the General Medical Clinic. This, it develops, is a distinct local advantage, and has helped us in achieving our goals. It would be far more difficult for a referral clinic, remote from the sources of its patients, to develop in the student a comparable sense of responsibility and continuity.

Alterations in the senior medical class curriculum

Traditionally the senior student curriculum has allotted eight weeks to medicine, and during this period he has been assigned to the outpatient department. Equal blocks of time were reserved for surgery, obstetrics-gynecology, pediatrics and elective time. It was considered desirable to alter this curriculum in such a way that each student could spend more than eight weeks in the General Medical Clinic, for we were anxious to have him develop initiative and responsibility in patient care, and to be truly integrated into the structure of the outpatient department. A plan was developed in which students

were assigned concurrently to the surgical, obstetrical, and medical services of the Buffalo General Hospital. By this device, the student obtained a 24 week service in the General Medical Clinic. Over this period he was able to build for himself a small clinic practice, which consisted of patients new to the clinic and patients who had been followed in one or more clinics for a variety of conditions. The 24 week schedule, so necessary to the attainment of our goal, was accomplished with the cooperation of the obstetrical and surgical departments of the hospital.

For the next academic year, 1956-57, it is planned to increase each student's time in the General Medical Clinic to a 40 week period. This is to be accomplished by an exchange of one half day per week between medicine and each of the other major services. The teaching of obstetrics, surgery, pediatrics and medicine will revert to individual blocks of eight weeks' time, but obstetrics, pediatrics and surgery will yield an individual student one half day a week, to allow him to attend his General Medical Clinic assignment. In return, those services desiring a half day per week of student time from medicine will be accommodated. Such an arrangement will allow the department of pediatrics to double the continuity time in the Well-Baby Clinic.

Lengthening the assignment in the general medical clinic

The teaching of the senior medical students in the General Medical Clinic is the responsibility of the attending physicians and each attending physician accepted this responsibility for two students, who were to remain with him as long as they were in the General Medical Clinic. It was requested that the attending physicians volunteer one half day per week for six months each year in order to insure continuity of medical care and teaching in the Clinic. One of the most encouraging aspects of the current year was the response of the attending staff, from the chief of the department to the men with junior appointments, in over-subscribing both the first and second six months' schedule.

During the past year each student had two General Medical Clinic sessions per week, so that during any one week a given student worked with a different attending physician in each of two clinic sessions. Each physician supervised the clinical work of two students for 24 weeks; by this device, the instructor became well acquainted with the student, and could permit increasing student freedom in electing diagnostic therapeutic choices. Thus the student was permitted to mature.

Conferences and other mechanisms designed to encourage comprehensive medical care

The students attended a Therapeutics Conference given bi-weekly and directed by a volunteer member of the staff who is an active member of the pharmacology department of the medical school. On alternate weeks, they attended a Comprehensive Care Conference, devoted to discussion of the broadest aspects of medical care. This conference was attended by the 18 students currently assigned to the Medical Clinic, one or more social workers acquainted with the patient to be discussed, a psychiatrist on the medical staff of the hospital, the resident and intern assigned to the outpatient department, and occasionally the attending physician who is seeing the patient in the General Medical Clinic. These conferences have not only served to emphasize the interrelations of the

various disciplines involved in total medical care, but also gave a certain unity to the six weekly medical clinics.

All efforts were made to obtain immediate consultations while the patient was in the General Medical Clinic. We were successful in administratively arranging such consultations in the fields of general surgery, obstetrics and gynecology, psychiatry, vascular disease, cardiology and endocrinology.

Psychiatric implications of the patient's symptoms, of his disease, or of contemplated treatment were stressed by a psychiatrist who met in a weekly conference with students, in groups of five or six. Yet another joint medical-psychiatric approach to patients was instituted in which another psychiatrist worked in the General Medical Clinic with the student and his internist instructor. No introduction of the psychiatrist was provided, other than that he was another doctor concentrating on the patient's problems. This relationship encouraged instructor as well as student education. Currently, the potentialities of this third technique are being studied in the belief that it will broaden the interface between medicine and psychiatry in our teaching program and allow for bilateral diffusion of ideas between the two disciplines. It may well be that such a common effort by internist and psychiatrist will help to erase the boundaries between the two which exists in many students' minds.

Improvement in the physical appearance of the clinic

At the same time that the clinic organization was revised, the hospital redecorated the entire outpatient department. It enlarged and refurnished the waiting room, and provided new lighting throughout the clinic. These physical changes represented the hospital's response to the challenge posed by the revised outpatient program. Though it did not involve a major hospital expenditure, it was of great psychologic importance and had a salutary effect on the staff, as well as on the patients.

A group of students from the university's Albright Art School have also organized a continuing exhibit of their work in the outpatient department. The prints and paintings are on display in the corridors, waiting rooms and individual examining rooms. They add considerably to the warmth so necessary to the best therapeutic situation.

The students have responded in a splendid fashion to their new responsibilities. To them no patient is too old, no chart too thick, no problem too involved but what they can contribute as the latest in a long succession of physicians.

The students were asked to evaluate their experiences in the General Medical Clinic. They unanimously valued the responsibility which was given them. They felt that the program had been most effective where it achieved continuity of teacher-student-patient relationship, and urged continued effort to achieve the ultimate in this regard within the framework of next year's curriculum. Progress is being made toward that goal, as has already been stated.

The attending physicians who served in the General Medical Clinic were also generally favorable in their reactions to the new program. They were impressed by the extent to which the student responded to the responsibilities given him.

Characteristic quotations from the reactions of our attending physicians would include:

"I was originally opposed to any de-emphasis of subspecialty clinics; I didn't believe a strong General Medical

Clinic would work. But I must admit it has worked and I've enjoyed my assignment immensely."

"I believe the patients have received better care under this program, and it's been more enjoyable for me."

"This has been the most satisfying clinic assignment I've ever had and the one in which I have been most effective as a teacher."

"No patient is a 'crock' to the student!"

"I've certainly enjoyed this assignment. But tell me, what ever did you do to get rid of those old 'crocks' we used to see in the clinic?" *(Answer: These patients are in many cases the same people.)*

"I believe the New General Medical Clinic superior to the old system."

"My experience with the new set-up was not as satisfactory as I am sure it was for most. I experienced some difficulty in digesting and checking new patients in the time available. My own over-specialization made me feel less secure in this general clinic than in a straight chest clinic where I am able to help the students more."

In recent years, the attendings had a poor record in regard to keeping clinic appointments. This last year, on the other hand, there were very few instances (less than 1 per cent) where one of these busy volunteer physicians failed to keep his clinic appointment. And the men have expressed their preference for a continuation of six month periods of service.

Indeed, the reaction of the medical staff has been sufficiently favorable to lead the Arthritis Clinic to request relief of responsibility for all patients with arthritis. It is planned to convert the Arthritis Clinic into a small consulting clinic with continuing responsibility for only certain categories of patients. The bulk of patients requiring continued care will be transferred to the General Medical Clinic.

The first full year's operation of the new program have proved its practicability. This is not to say that problems do not remain. Conditioning patients to an appointment system is a large order, and it is clear that more work needs to be done in order to maintain a steady flow of patients without keeping any one patient waiting too long in the clinic. Part of the difficulty in keeping patient load within clinic capacity is due to increasing frequency of referrals to the General Medical Clinic from remaining autonomous clinics (diabetes, allergy). In a sense this is a tribute to the comprehensive care rendered by the student-attending physician team, but if uncontrolled would destroy the relative slowness of pace so necessary for a teaching clinic. These and other technicalities involved in such a major clinic change have not all been solved, but none appear insurmountable.

Sobre la organización de una Clínica General

En hospitales de todas partes de los Estados Unidos se ha notado, recientemente, un vivo interés por la enseñanza aplicada a los pacientes externos, interés que se debe en gran medida a los programas especiales de instrucción que funcionan en algunas Universidades (tales como la de Cornell, Oklahoma, Western Reserve y Colorado). Estimulado por el éxito de tales cursos, el personal médico del Hospital de Buffalo, que es una institución privada, se puso de acuerdo, en 1954, sobre la reorganización de su Clínica General y el desarrollo de un programa de enseñanza relativo a los pacientes externos. En este artículo se ofrece un informe detallado sobre el desarrollo de dicho programa, los principios fundamentales en que se basa (el énfasis se pone en el tratamiento médico *comprensivo)*; los objetivos que se propone alcanzar; las modificaciones y cambios que trajo consigo en cuanto a los establecimientos y métodos de enseñanza ya existentes, y las dificultades que se tuvieron que superar. El nuevo programa ha dado hasta ahora resultados satisfactorios, aunque aun no todas las dificultades y problemas que suscitó han podido ser eliminados.

University of California Medical Science Teaching in Indonesia

FRANCIS SCOTT SMYTH

TWO WORLD WARS have vitally changed the international relationships, outlook and responsibilities of our country. With increase and rapidity of transportation and communication, distances no longer act as barriers behind which we can live in self-contained isolation. Spared the devastation and disruption which characterized those sites of major conflict, our scientific and industrial programs were catalyzed and expanded under the pressure of war. Our accelerated production and wider scope of industrial enterprise, however, has created the need for raw materials beyond our local resources, as well as the need for trade outlets for our finished products. Economically, then, nations are becoming increasingly interdependent.

During the war we became interested in our neighbor's health, not only in regard to protection of our own military manpower in a far-flung combat area, but also in regard to the importance of disease from other parts of the globe. More subtle is the realization that our national well being, both economic and physical, will be affected by the economic and physical health of our neighbors. Yet the differential between the health of our population and that of our neighbors has been increased by the Four Horsemen of the Apocalypse —War, Revolution, Famine and Disease. Newly created countries, as well as old empires, face the need for modernization of government, education, industry and agriculture. A common denominator in all these areas is the health of the population and, while cultural backgrounds and social concepts may differ, a bond exists in the interest in scientific medicine and the health sciences.

Swamped with appeals

With the close of the war, American medical colleges were confronted with a constantly increasing number of requests for our modern and advanced techniques and training programs in the health sciences. Foundations, such as the Rockefeller, were swamped with appeals beyond any previous experience or capacity to meet. At the same time, medical schools were burdened with a flood of returned veterans, inadequate and obsolete facilities, and the increased needs of our own growing population.

In 1951-1952, for example, we had 42 foreigners studying at the University of California Medical Center. These "students" in varying capacities, came from 21 different countries. The needs and problems of the professor of orthopedics from Teheran were quite different from those of the orthopedist from Italy, and the ophthalmologist from India returned to a totally different situation from that of his colleagues from Norway. Yet, all were exposed to the training de-

signed to fit Americans to the American scene. In general, the more mature foreign physician could adopt or convert such useful techniques and ideas as would be suitable to his particular native situation. But younger men, particularly those who spent several years as undergraduates, were often alienated from their national scene and faced a certain degree of frustration when they returned to home conditions.

Educational exchanges between countries with similar institutions and economic levels are relatively smooth, but for those countries there is less need. Educational exchange in countries with population and economic stress involves more than exposure to, or experience in, American institutions.

"A particular foreign country"

As chairman of the Committee on International Relations in Medical Education of the Association of American Medical Colleges,[1] I voiced apprehension. It was apparent that all our schools were faced with a veritable Tower of Babel. I proposed that, where possible, an American school should attempt a more specific and specialized interest in one area or country—not to the exclusion of other foreign students—but, generally, to relate more specifically to the needs and conditions of a particular foreign country. The Medical School Advisory Board of the University of California felt that, facing the Pacific, our field of interest might well be directed to some country in the Far East. Without any formulation or formal program, we were able to send many books, and to receive and send visitors to the medical schools in Japan. Even more natural, however, was the consideration by the University of California Advisory Board of interrelations with the Philippine Islands. Here, 25 years of American rule, the adoption of the English language and many American institutions, and the continuous flow of students from this area already gave us a better understanding of their needs. Meanwhile, high level foreign policy of our own government had sponsored the Point IV program for many of the countries of the world who were in great need.

In 1952, without advance notice, Professor Sutomo Tjokronegoro of the new Republic of Indonesia presented himself to me with a request for an affiliation between the Faculty of Medicine of the University of Indonesia at Djakarta and the University of California School of Medicine in San Francisco. While this was quite in accord with the idea of a more realistic approach to concentration and continuity in one country, this was nonetheless a surprise.

Meanwhile, the former ambassador from the Republic of Indonesia addressed a university assembly in Berkeley and won their hearts and admiration with his depiction of Indonesia's struggle for independence and Merkeda (freedom). Their problems—the challenge of the new republic—had certain parallels with our own revolutionary origins. As a result, the Associated Students of the University of California undertook a joint program with the students of the University of Indonesia, collected substantial money, and formulated the Cal-Indo program, which sponsored exchange scholarships and student health activities.

At a meeting of the authoritative Committee from the University Institute of International Relations, I was informed that Dr. Sutomo's invitation was most unusual and deserved very careful analysis. While not adamantly opposed to the policy

involved, I was quite unprepared to advocate such an affiliation blindly and without a great deal more information. A year and a half after Professor Sutomo's original visit to California, after an invitation from the U. S. State Department authorities, and exhaustive governmental processing, I visited the Faculty of Medicine in Djakarta as a guest of the Republic of Indonesia.

Indonesia

The 80 million people in the Indonesian Archipelago, the islands of Sumatra, Java, East Borneo, Makasser, etc., are scattered over an area of 750,000 square miles. There are about 1500 Indonesian physicians, or one doctor for every 53,000 persons. The Ministry of Health hires some foreign graduates for the health services and maintains a training program for practitioners which is comparable to that of our male nurses.

Prior to the war there were two medical schools—one in Djakarta (formerly Batavia) and the other in Surabaja. Since then a new school—Gahdja Mada—was started in Jogjakarta, while schools at Medan (Sumatra) and Makassa are still awaiting facilities and faculty. The barrier in the production of a sufficient number of doctors for their tremendous need has been the scarcity of lecturers and professors for the existing medical colleges. Adequate science buildings and hospitals are available at Djakarta and Surabaja but, with the departure of the Dutch, an adequate, high standard curriculum could not be maintained. The curriculum itself had been modelled after that of Europen schools so that, while practically anyone who wished might enter the schools, only 60 or 70 received their degree each year from the two existing schools.

The Indonesians received me most hospitably, and the ambition and energy with which the leaders were determined to solve the myriad problems confronting them was most stimulating. A vast educational program was reaching out to the city and village alike. Language was no barrier to communication since English is the second language, the instruction in which is greatly aided by the Ford Foundation.

I visited most of the departments of the medical school at Djakarta and interviewed the respective professors or their substitutes, and a faculty meeting was called. Digressing from my objective, I expressed great concern regarding their need for village and rural sanitarians, nutritionists, etc., who would not require an extensive and costly medical education. In their analysis and experience with the Montri (a substandard profession comparable to a male nurse), the health personnel were inevitably confronted with the care of the sick of the village, repeating the history of the men of medicine everywhere. Further, they believed that a good program of public health could develop and be maintained only with the leadership of high standard medical education. Finally, they had not asked for aid in developing a School of Public Health. The discussion convinced me that they knew what they wanted, and that a clearcut purpose and design on their part would not vest with us the presumption that we knew how to work out their problems.

From my faculty interviews, a need was apparent for 65 teachers in the various medical fields. Such a group, of course, would have been impossible to find and any such number would be more apt to separate

into a colony group rather than meld with the faculty of which they should be an integral part. I suggested that the Indonesian faculty settle on 10 positions of the highest priority. Richard Stull, the University of California business advisor on this problem, stated that until adequate housing was assured in this overcrowded city of three million, no American personnel could be sent. Both sides agreed also that the training of future Indonesian faculty as replacements for the temporary American personnel should involve selection of students from their school for advanced training in the United States.

The program

While we arrived at a rather simple and well defined program, it was, nevertheless, necessary to implement it with a legal contract. This was finally approved by the Regents of the University of California in July 1954.

In anticipation of this approval, Dr. N. Burbridge of the University of California Department of Pharmacology had been sent to Djakarta in 1953 as an advance agent in the program. Too much credit cannot be given to him for his energy, tact, and good judgment, not only in setting up the Department of Pharmacology at the University of Indonesia but also in planning the orders and commodities necessary for subsequent faculty arrivals. Another pioneer was Professor Edwin Schultz, formerly of Stanford University School of Medicine. Also antedating contract approval was the encouragement of the China Medical Board, who not only underwrote Professor Schultz' appointment but offered substantial sums for buildings, books and library facilities. University of California Regent E. J. Fenston visited Djakarta and gave his enthusiastic support to the program. Acknowledgment should also be given to the Asia Foundation for its contributions and aid.

The first contract field staff arrival in Djakarta was Dr. William Lyons of the University of California Department of Anatomy, a good teacher as well as administrator, who endeared himself to students and faculty alike.

Early in the contract, the faculty of the University of Indonesia decided to revise their curriculum along the more efficient methods of American medical education. Only students with adequate background and ability would be admitted, would progress through the curriculum without interruption, and "learn by doing" in the laboratory and clinical sciences. Instead of admitting 300 and graduating 20, the selected classes would permit instruction in adequate laboratories and assure a steady flow of graduates. The difference reflected the previous lack of selectivity and screening of applicants, where some were poorly prepared, some inadequately endowed, while others were disinterested or unwilling to continue after the first or second year. Previously, students were examined at their request—often taking an indefinite leave before continuing their schooling. This represented a costly inefficiency which, at this stage of development, the Republic of Indonesia could ill afford. Actually, it is planned that, in time, the Faculty of Medicine at Djakarta will prove the source of much needed faculty for other medical schools in the Archipelago and hasten the day when the new republic will no longer be dependent on foreign nationals in the health program. In the interest of good standards in medical education, the change in the curri-

culum seems a necessity.

Obstacles

But we overlooked the many obstacles to a contract program such as this! Direct communication was often subject to delay. Commodities were slow in being delivered and passed through many channels, both Stateside and in Indonesia. Good men were hard to find and had to be not only good teachers, but adaptable to the contrasting climate and culture. The ICA had requested that all appointments be made from the senior members of the University of California faculty for a two-year period. We could not accept such restrictions for, while active faculty can take sabbatical leave for one year, no school could afford to release 10 to 12 at one time, and not all candidates would be interested in going to a designated country.

Under the present contract the chief obligations relate to teaching, lecturing, and setting up laboratories, manuals, etc. Research has not been overlooked and some valuable reports have been published from our field staff. Our aid has been started in the preclinical sciences as the foundation area. In the clinical departments the Indonesians have requested the institution of clinical clerkships and the intern-residency system. The hospitals affiliated with the University of Indonesia Faculty of Medicine at Djakarta are large and extremely busy, the attendance at the outpatient department is legion, and the material available for study is enormous. A unique opportunity is present to develop a tropical medicine research unit for American scholars at the Wilhelmina and Eyckman Institutes, and with the modern equipment which is being assembled at the school. Some excellent studies on kwashiorkor are being made under Dr. Sutomo in pathology and Dr. Soedjono in pediatrics.

Students from Djakarta on our local campus represent a counterpart of our Djakarta-American personnel. Their performance, deportment and friendship have made them fine emissaries. For the growing mutual appreciation and respect between our two cultures and people, we are most fortunate in the individual contributions from both elements. It confirms the thought in Useem's' book, "The Western Educated Man in India:"

> *"Any social enterprise that involves two or more cultures is bound to pose questions for decision among those directly concerned with the achievement of its aims. In a world of crises, it would be overly optimistic to expect perfection; in a world of change, it would be overly pessimistic to presume failure. Between these two extremes lies the potential of constructive action. Although only a few can make the great decisions that govern the destiny of nations, there is within the province of the ordinary individual the means to help make such enterprises as the exchange of students achieve the ends in view. Who can deny that some obscure, small effort may, in the years ahead, have decisive consequences far beyond the more conspicuous ones made by the leading figures of our time."*

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La enseñanza de la Medicina en Indonesia por la Univ. de California

Desde fines de la última guerra mundial, los Colegios de Medicina de los Estados Unidos tuvieron que enfrentarse a una creciente demanda, por parte de países extran-

jeros, de instrucción en las nuevas técnicas avanzadas de la Ciencia Médica. En 1951, por ejemplo, había 42 extranjeros estudiando en el Centro Médico de la Univ. de California. Estos procedían de 21 países, cuyas necesidades y problemas eran muy diferentes uno de otros, y, sin embargo, todos recibían el mismo tipo de instrucción, designado principalmente para estudiantes americanos. Esta situación había de producir más tarde decepciones, cuando los extranjeros (algunos de ellos profesores) volvieran a su país. El autor del presente trabajo, director del Comité de Relaciones Internacionales de la *Association of American Medical Colleges* propuso hace algunos años un plan de instrucción en el que la enseñanza, en cada centro, estuviera específicamente relacionada con las necesidades y condiciones de un determinado país (véase en el num.27[1952],pp.65-69, de esta Revista, el informe del mismo autor, "Report on Committee on Foreign Students"). Para la Univ. de California, se sugirió que fuese algún país del Lejano Oriente. Mientras este plan se hallaba aun en su fase preliminar, habiéndose establecido ya cierto intercambio científico con el Japón y las Islas Filipinas, el Profesor Sutomo, de la nueva República de Indonesia, vino a pedir una especie de afiliación de la Facultad de Medicina de la Univ. de Indonesia,, en Djakarta, con la de la Univ. de California en San Francisco. Al mismo tiempo, un discurso pronunciado ante una Asamblea universitaria de Berkeley por el Embajador de esa República, ganó a tal punto simpatía y admiración por la lucha de Indonesia por su independencia, que, como resultado, los *Associated Students* de la Univ. de California recogieron substanciales sumas de dinero para sostener el programa llamado "Cal-Indo", según el cual estudiantes de Indonesia recibirían becas para estudiar en la Univ. de California. Finalmente, después de una visita oficial del autor de este informe a la República de Indonesia, fué establecido en 1954 un plan definitivo para la fundación de una Escuela de Salud Pública de la Univ. de Djakarta, el cual proveía que 10 miembros de la Facultad de Medicina de la Univ. de California irían, cada uno por un período de 2 años, a enseñar en dicha Escuela, mientras que grupos de estudiantes médicos seleccionados de la Univ. de Indonesia vendrían a recibir instrucción avanzada en los Estados Unidos. Detalles del *curriculum* y sistema de enseñanza de la Escuela son descritos en este informe, así como los resultados positivos que ésta, tanto como el programa de instrucción para estudiantes de Indonesia, han producido hasta ahora.

* * *

Separatas de este artículo, en español, podrán obtenerse si son solicitadas por un mínimum de 25 lectores.

The Medical Student and Foreign Languages

EARL ELDRED

TWICE BEFORE on the pages of this Journal[1, 2] inquiries have been made into the necessity for including foreign languages among the prerequisites for medical training. Despite the adverse conclusions of these articles, this fall 47 American medical colleges still required or recommended the study of a foreign language by their entrants; only 31 catalogues were vague or noncommittal in this respect. Thus, though there has been change since 1927, when practically all schools required a modern language, or 1940, when 49 schools had the requirement and 16 schools the recommendation (Table I), the change has been slow.

Meanwhile, the student who aspired to enter medical school and for whom recommendations tend to become musts and the requirements of more exacting schools minima, has seldom dared gamble with his future by omitting the study of a modern foreign language. The average student of one sampling had "taken" a total of some 1.1 years of foreign language training in high school and 2.0 more during college, in addition to 1.8 years spent in high school upon the study of Latin (Figure 1). The call for such a major outlay of effort, rising, incidentally, above persistent pleas from college educators for less dictation of premedical training, would seem to imply that as clear-cut reasons exist for requiring languages as for chemistry or zoology.

This, however, is not so. Some schools are apparently moved by the utility of foreign languages; others, cynical in this regard, consider the language requirement only a means of insuring that students come to medical school with a sufficiently liberal education. Let us inspect these arguments.

THE PRACTICAL ARGUMENTS

Reading medical literature

Marraro,[1] in tracing the history of the foreign language prerequisite, found that it had been initiated late in the last century, when the American physician was obliged to read foreign journals to follow leading thought and advances in scientific medicine. In his survey 53 per cent of 79 deans replied that their medical schools required foreign languages solely for their "practical value" to the student, while an additional 27 per cent implied some direct utility of these studies.

Today the strength of this argument, as concerns the general medical student, is greatly weakened. Many more medical journals are written in English than in any other language (Table II), and even many of the international journals are largely given over to English. For

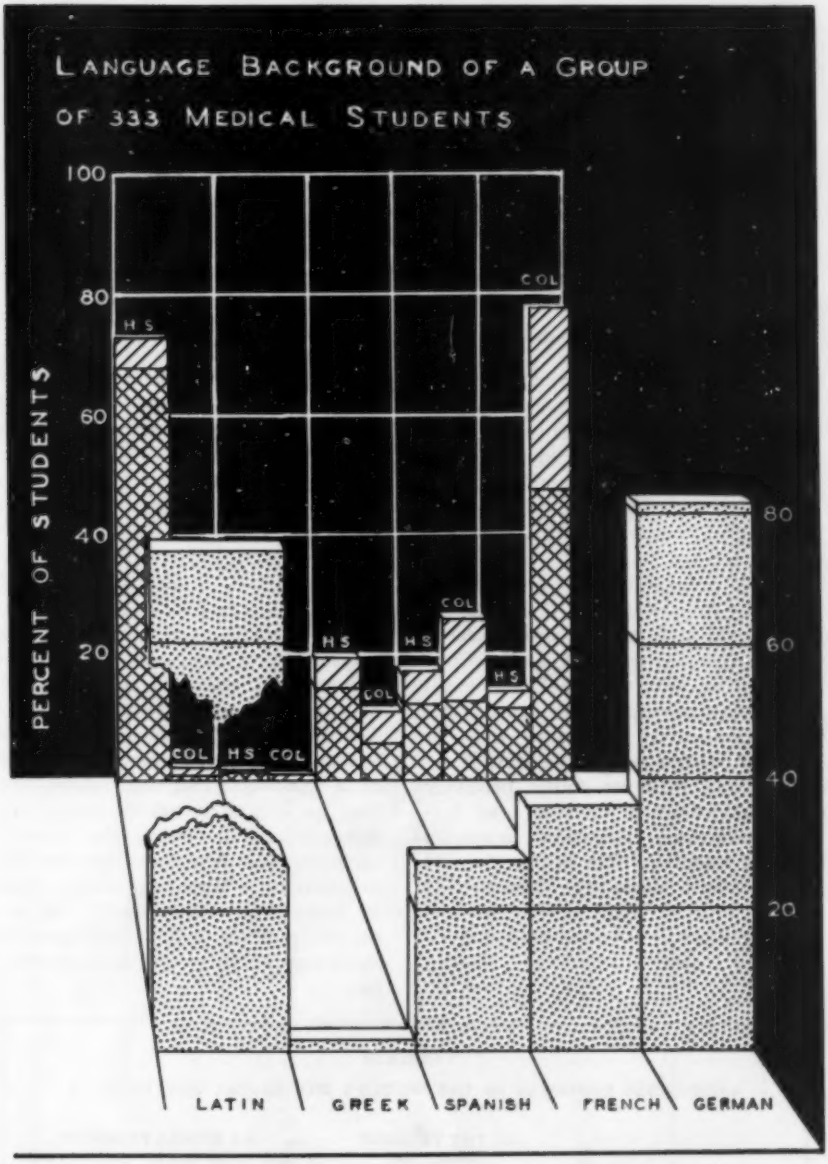

Figure 1

Foreign language courses as studied by 333 members of the 1950, 1952 and 1953 graduating classes at the School of Medicine at Northwestern University. Only 20 per cent of these students entered medical school from that University's undergraduate school, the remainder coming from a total of 105 other colleges. Thus, the sample is somewhat representative of premedical education throughout the country. The height of each column represents the percentage of students who studied the designated foreign language in high school (HS) or college (COL) in the back row, or in either high school or college in the front row. In the back row of columns the years of schooling in the language, whether more or less than two years, is indicated by a change in the pattern of cross-hatching.

TABLE I

ENTRANCE REQUIREMENTS IN RESPECT TO MODERN FOREIGN LANGUAGES OF AMERICAN MEDICAL SCHOOLS

	1927 (3)	1931 (4)	1934 (1)	1940 (5)	1951 (2)	1956
REQUIRED OR SPECIFICALLY RECOMMENDED	57	58	73	53	45	47
NO SPECIFIC MENTION	1	7	7	13	35	31*

*Seven of which recommended in very general terms the taking of a foreign language.

example, of some 190 biomedical articles, generally doctoral theses, published in the decade prior to 1952 in the supplements of the various Scandinavian *Acta* journals, 186 were in English. To further illustrate this trend toward English, 75 per cent of the 800 presentations at the International Physiological Congress of 1956 held in Brussels were delivered in English. By contrast, at the Congresses of 1932 and 1935, the great majority of presentations in this central biomedical discipline were in foreign languages (Table III).

Medical students today probably are seldom called upon to read foreign literature. Individual inquiries of 124 members of a senior class at one leading University (Northwestern) revealed that no student had had occasion in ordinary course work to read a medical article in a foreign language. In an earlier survey by questionnaire of seniors of 4 medical schools in Chicago, 62 per cent of the 600 students gave negative replies when asked if "a reading knowledge of a foreign language is important to a medical student."[1] More negative replies might have been obtained, if the question had clearly excluded classical languages.

The trend in recent years toward specialization may, perhaps, be giving renewed emphasis to the utility of a knowledge of foreign languages. The more intensive reading of a restricted field of knowledge required of a specialist and the probability that he will at sometime engage in research and in publication should certainly add new incentive for the acquisition of linguistic skills. And, of course, for the careerist in research, reading facility with two or more foreign languages is indispensable.

TABLE II

LANGUAGES EMPLOYED IN THE WORLD'S BIOMEDICAL JOURNALS (6)

	AS THE PRIMARY LANGAUGE	AS EITHER PRIMARY OR SECONDARY LANGUAGE
ENGLISH	1802	2061
SPANISH	558	608
FRENCH	373	600
GERMAN	376	545
ITALIAN	308	348

TABLE III

RELATIVE USE OF LANGUAGES IN PRESENTATIONS AT SEVERAL INTERNATIONAL PHYSIOLOGICAL CONGRESSES

YEAR	NO. OF CONGRESS	SITE	TOTAL NO. PRESENTATIONS	PERCENT IN ENGLISH	GERMAN	FRENCH	ITALIAN
1932	XIV	Rome	427	33	27	18	22
1935	XV	Leningrad	579	37	33	28	2
1956	XX	Brussels	976	75	10	15	+

Learning the Medical Vocabulary

A much repeated argument for including foreign languages in premedical preparation is the aid which they give in the acquisition of the tremendous vocabulary of medical English.[8, 9] Modern foreign languages are not important in this respect, only 48 terms, for example, having entered the whole range of scientific English from modern German (10, pg. 305). The study of classical languages is presumably more valuable, as 75 per cent of medical terms have Greek roots and most others stem directly from Latin (10, pg. 66). These proportions, however, immediately point out an inconsistency in premedical preparation, for whereas perhaps 75 per cent of medical students have an acquaintance with Latin (Figure 1), almost none has studied Greek.

The students themselves in the majority believe that a background in classical languages is of assistance, judging from an opinion survey made at Northwestern University. Second quarter sophomores, 307 in all, were individually asked to read the following questions, and their replies noted:

1. What has been the value of your Latin or Greek training in helping you in your medical school work? Very little—100. Moderate—95. Marked—30.

2. If you could take your premedical work over again, would you include at least elementary courses in Latin or Greek? Yes—163. No—144.

3. If you could take your premedical work over again, would you include a course in *Practical* Medical Latin and Greek?* Yes—200. No—107.

*Students were not allowed to read question three until after number two had been answered.

Of these students, 55 per cent of the 227 who had had training in a classical language believed that it had been of moderate or marked assistance. Furthermore, two-fifths of those who had no classical training apparently regretted this neglect and would include such courses, if they could relive their schooling.

To objectively test the validity of these opinions, a statistical correlation was attempted between the overall grades of individuals achieved in freshman and in sophomore anatomy courses, and the number of years (0 to 4) of training in classical languages. Presumably a large proportion of the burden of building a medical vocabulary occurs in these morphological subjects. Yet no correlation was found ($t = .01$). A check then was made for possible relationship between grades and motivation or active interest in word derivations, as implied in the answers as to whether training in classical languages had been of very little, moderate or marked value. Again, there was no correlation ($t = .03$).

Despite these results, there are indications that vocabulary competence is a pertinent factor in medical school performance. Analyses made of separate components of medical aptitude tests for 600 students showed that correlation between performance on the category "vocabulary" with grades earned during the first year of medical school ($t = 0.51$) exceeds all other categories such as "logical reasoning" (0.36) or "visual memory" (0.33).[11] In several other medical aptitude tests the "vocabulary" component ranked highest, both from the standpoint of number of failures predicted and the least number of excellent students excluded.[12, 13] At the University of Minnesota the grades earned over the first year of medical school were

found to correlate equally or better with the "classification of terms" component, as with any other measure.[14] Again, at the University of Oklahoma, a comparison of first-year grade averages with performance on various tests given to entering students proved correlation with "vocabulary" to be over twice as high (0.48) as with any other factor, e.g., college grades in biology (0.15) or total credit hours (0.04).[15]

Thus, there is strong suggestion that vocabulary skills, and by inference familiarity with classical languages, may indeed relate to performance in medical school.*

Latin and the Prescription

The practice of using Latin or fragments of bad Latin in the writing of prescriptions is still advanced by some teachers as persuasion for the study of Latin. This usage, however, in this era of proprietary medicine, is of little importance. In 1941 a query of pharmacology departments revealed that only 14 per cent continued to teach the exclusive use of full Latin titles and directions in prescription writing.[18] A recent textbook upon this subject contains only 42 Latin terms and phrases and an additional 33 abbreviations in Latin,[19] all of which could as easily be learned in one study session as in two years of Latin grammar. A country-wide survey of 13,125 prescriptions received by pharmacists in 186 cities on a single day in 1946 revealed that not one was written entirely in Latin, and in all only 56 different terms and abbreviations had been used.[20]

This argument, then, for studying Latin, like the pharmaceutical Latin it purports to further, is obsolescent.

The Cultural Arguments

The cultural benefits of training in foreign languages are apt to be most articulately expressed by teachers of these languages.[21,22] They argue that such training, especially in classical languages, has unique value in inculcating habits needed in the pursuit of the severe academic program of medicine: habits of industry, sustained mental effort, an attentiveness to details and exactitude, and skill at analysis and synthesis. Through more perfect understanding of English arising from familiarity with other Indo-European languages, greater nicety and facility in the use of English is thought to develop and, hence, greater lucidity of thought.

Some proponents would admit that benefits accrue not so much by the study of the grammatical mechanics of the language, which is only a little more cultural than, say, the study of shorthand, but rather from the intimate understanding and feeling for an alien culture which the student can only develop through contact with the best thinking of the culture expressed in its own medium of thought. Through such contact are developed the historical perspective and sense of values, a sympathy for alien ideas and the increased understanding of humanistic principles which are invaluable to the physician in his roles as confidante to his patients and as a respected leader in society.

Admittedly, such considerations are of supreme importance in the training of the doctor.[23] Yet, if gen-

*Freshmen in undergraduate college who have had two or more years of high school Latin receive decidedly higher grades than those not having this training, according to two statistical studies of several thousand students.[16,17] Performance on entrance English and spelling tests were also superior.[17] There was no correlation between grades and modern foreign languages.[16]

eral cultural considerations are indeed to be recognized in the framing of admission requirements, one may wonder why language studies are specifically preferred over literature, philosophy, history and other studies which have the same *raison d'etre.*

The Intent of Language Prerequisites

Having now reviewed the arguments for wishing medical students to have training in foreign languages, let us examine the published advice of the several admissions committees for what light it may throw upon their thinking and intentions. It is plain that some schools consider foreign language training a tool which should be familiar to the hand of every medical student. Several schools specifically recommend a course in scientific French, or better, German, a choice that would hardly be made for cultural reasons. The requirement of a number of schools of a "reading knowledge" would similarly seem to imply that this knowledge was to be put to immediate use. Certainly the school which stipulates that students who are not adequately prepared "may take a test at the beginning of the first year of residency at the medical school" and, if then unsuccessful, again "at the beginning of the second year" is stating in no uncertain terms that language is not a subject to be taken for its cultural sake at the moment and then to be quietly forgotten. A few schools have faced the issue precisely and advised, for example, that "competence in at least one foreign language is exceedingly important for those entering medical research or graduate training in medicine," but that, in effect, ordinary medical students can get along without such training.

The more indirect appeal of language training is apparently felt by a handful of other schools which, in general, advise that "college work should include courses in language and literature—or other subjects which may afford the foundations for cultural development." Several schools of this frame of mind, while feeling constrained to keep up the tradition of recommending foreign language training, openly admit that Italian, Russian or "any modern foreign language" may offer as much cultural benefit as German and French.

At least 25 schools apparently have decided that language training is neither a direct essential for successful doctorship, nor does it have unique virtues for "broadening" the doctor, for they make no comments concerning foreign languages.

The Effect of Language Prerequisites

In the fact of this spectrum of advice and admonition* it should be no surprise that students waver in their choice of language studies. In the sample represented in Figure 1, 43 per cent had studied two or more different foreign languages, or, expressing this differently, only 45 per cent of those taking a foreign language in high school continued to study the same tongue in college. This observation is pertinent to the lament that Americans often "take" languages, but seldom know them.

Most members of this bilingual group were those who had Spanish or French in high school and later, under the compulsion of new advices in college, had turned to the study of German. Hence, this language jumps from its position as a weak

*In 12 catalogues recommendations concerning language training extended even into the high school years.

third behind Spanish and French in high school to an overwhelming leader in college where it was studied by 79 per cent of these students. The predilection for this particular language, and the fact that many of these students mentioned that they had studied scientific German, lead one to conclude that there is a strong impression at the college level that medical students put such knowledge to practical use.

Surprisingly, for this modern era with its general rejection of things classical, 75 per cent of these students had grammatical training in classical languages. Practically all of this training was in Latin, and in high school there were more students who studied Latin than those who studied all modern foreign languages combined. Furthermore, a greater proportion (93 per cent) continued to study Latin two years or more than did those taking modern languages (75 per cent).

Despite the time spent in classrooms of the various languages, especially German, most students in medical studies would freely admit that their German was too rusty to penetrate the mysteries of the latest issue of the ZEITSCHRIFT FÜR KLINISCHE MEDIZINE. Long ago Dr. Abraham Flexner[24] found that of freshman students at several medical schools only 25 per cent could pass a minimal reading test in German and of those who chose the French test a bare 50 per cent passed. Deans of medical schools are not blind to this fact, and as mentioned earlier, although a majority thought the value of foreign language training lay in its use for reading scientific literature, yet only a score of these 79 deans were sure that their "modern foreign language requirement was sufficient to enable the average student to read foreign medical and scientific literature."[1]

The overwhelming preference for German in premedical training doubtlessly stems from the fact that a greater scientific and medical literature is couched in this tongue. Despite the obvious attractions of this vast heritage, modern-day usages admit some question as to the justification of stressing this language so preferentially. German medical science has been in a state of eclipse during the war and reconstruction periods. Furthermore in the field of psychology at least, the annual number of scientific articles from Germany had decreased long before the war, beginning sharply with Hitler's advent to power and dwindling progressively until the war years when publication ceased entirely.[25] Also, important secondary users of German, such as the Scandinavians and Japanese, are turning more to English as a vehicle for publication and to the English-speaking countries for advanced training.

While German has become absolutely less important, other languages have gained relative prominence (see Tables II and III). Nearly as many biomedical journals are published in Italian and French as in German. Then, of course, there is the burgeoning Russian upstart!

Summary

It is to be expected that American medical schools—some privately-owned and free-lance in their admissions, others tax-supported and mindful of urban or rural needs for physicians; some given to training of practitioners, others to turning out specialists—should differ in their requirements in foreign languages. Nor does it seem desirable to compromise these requirements and make them universal.

Schools which find their graduates predominantly entering the specialties or medical science may believe that foreign languages should be included in the preparations of all their students. Once this is decided upon, it would seem such a requirement should be strong enough to insure satisfaction of its recognized utilitarian purpose. Furthermore, planned efforts within the medical school should be made to exercise this required skill, just as courses in physiological chemistry exercise the required knowledge of basic chemistry. However if only a minority of a school's graduates turn to postgraduate work, then the decision must be made as to whether the benefit of insuring that this minority is fully trained justifies the pursuit by the majority of a skill they will never use.

Aside from the concrete question of direct utility is the formless and difficult one of cultural values. Here it would seem that the problem is not whether foreign language courses are culturally broadening—a premise which probably everyone would readily grant—but whether these studies are in some way unique among the humanities in the furtherance of this objective. This is a difficult thesis to support.

In any case, because major expenditures of time and effort by the premedical student are apt to result from even mere suggestions, proclamations of admissions committees should be directed to clearly defined objectives and the requirements made sufficiently realistic to insure accomplishment of those purposes.

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Los estudiantes de Medicina y el estudio de lenguas extranjeras

En anteriores números de esta Revista se publicaron dos encuestas sobre la necesidad de incluír el estudio de lenguas extranjeras en la educación pre-médica (*Journal of Med. Educ.*, 2 [1934], pp.351-59, y 26 [1951], pp.463-66). A pesar de las conclusiones negativas de estas encuestas, en 1956, 47 Colegios de Medicina de este país exigían—o recomendaban—el estudio de un idioma extranjero como condición de admisión, y, según estadísticas recientes, el promedio de los estudiantes médicos aun estudia lenguas extranjeras durante algo más de un año en las Escuelas secundarias, y durante 2 años o más en *College*. El autor del presente estudio, Profesor de Anatomía de la Univ. de California en Los Angeles, discute aquí los argumentos en pro y en contra del estudio de idiomas como requisito de la educación premédica, considerando el problema desde puntos de vista prácticos tanto como bajo el aspecto cultural, y señala los objetivos y efectos que tiene dicho requisito. En sus conclusiones, el autor indica que las diferentes Escuelas de Medicina deberían seguir pautas diferentes en cuanto a esa demanda según los tipos distintos de instrucción que se imparten en cada una de ellas (algunas, por ejemplo, tienen como fin principal la formación de médicos de práctica general para las áreas urbanas y rurales, mientras que otras se dedican sobre todo a la preparación de especialistas), y que no sería deseable que tal requisito fuese adoptado universalmente. Además, los Comités de Admisión de los Colegios de Medicina deberían definir claramente los objetivos que persiguen con dicho requisito, guiándose, al establecer éstos, por consideraciones realistas que asegurasen que tales objetivos se puedan cumplir. El presente trabajo va acompanado de varias Tablas estadísticas y gráficas pertinentes a la discusión del problema, así como de una extensa lista bibliográfica.

Editorials and Comments

Can't We Prepare Physicians for Practice before Age 30?

THE COMMON PATTERN for the preparation of a physician for practice today in the U. S. includes eight years of elementary schooling, four years of secondary schooling, four years of liberal arts training, four years of medical school training, and four years of hospital training (one year internship and three years of residency training). If, to this is added the two required years of service in the Armed Forces, and the five pre-school years we find most physicians today entering their chosen field of practice at ages 31 years and older, "about ready for their first coronary," as has been so aptly said.

This prolonged period of preliminary training for today's physician is in marked contrast with the meager two to four years of high school followed by the one or two years of medical lectures which constituted the training of the majority of American physicians until about 1890.

In defense of the change we can point out the greatly increased dimensions of the field of medicine and insist that to properly prepare a young man or woman to practice modern medicine with all its preventive, therapeutic, sociological and psychiatric implications, requires the 24 years of training now considered standard. And there are few who would deny that today's practitioner of medicine must be broadly trained in order to approach his patient in a comprehensive way and deal with his problems in all their multiple and varied forms.

In questioning the necessity for this prolonged period of preliminary training there are at least three areas which could well be subjected to careful exploration.

First, from the pedagogical point of view, is it not possible that there is still too much concern in our premedical and medical teaching with "coverage" of subject matter? If we assumed, for example, in the medical course that complete "coverage" was no longer possible or even desirable, and put our emphasis instead on establishing in the student sound habits of history taking, physical examination, utilization of laboratory findings and current publications, and imbued him thoroughly with the desire for, and methodology of, self-education, would four years of medicine (one or two of them 11-month years) still be necessary? I doubt it.

Again, from the pedagogical viewpoint, should we continue to assume that all study for medicine can or should be completed in the period before the young physician starts to practice? Is it not better pedagogy to assume that medicine is a life-time study and that after preliminary orientation, inculcation of essential habits and attitudes, and acquiring of basic knowledge and skills, the young physician will enter active practice and continue through self-education and through postgraduate education to keep step with the rapid changes and additions to knowledge in his chosen profession?

From the point of view of economics, is it not wasteful to keep the young physician in training throughout his '20's when there are

so many physician assignments in industry, the Armed Forces, rural practice and the public health service that demand the energy and physical reserves of men and women in their '20's? Does not the excessively long prepractice training period for doctors discourage students from undertaking it and lead them to choose instead careers in law, engineering, chemistry or one of the other sciences? Is it fair to young physicians to keep them so long in training on stipends insufficient to properly support a wife and children, and is such a system apt to make the physician, once he enters independent practice, inordinately concerned with collecting high fees to recompense for the years of frugal living he has had to endure?

Is it not possible: (a) that students with unusually active minds and with good capacity for learning could be identified in the early years of high school?; (b) that such students could be advised to plan on a college education and possibly also education for a profession and (c) that such students could be freed from the lockstep timed to the slow learners and permitted to advance as rapidly as their capacity and interests justify?

With all these possibilities in mind medical educators have naturally been very much interested in experiments which might make it feasible to shorten the preparation of those students who know early in their career that they are going to be interested in higher education and training for a profession. Among these experiments are: (a) those designed to permit selected students to work harder throughout high school and be taking college credit courses throughout their fourth year; (b) those designed to bring into college after only three years of high school selected students who need the sharper competition and the more adequate science laboratories; (c) those designed to provide in the liberal arts setting two years of general education with a single year of concentration in their chosen field and (d) those designed to permit selected students in the liberal arts college to begin courses in the medical school in their junior or senior year of arts and likewise continue some of their arts college courses through the first two years of the medical course (e) those designed to convert the clinical clerkships of the senior year of medicine into a full-fledged internship so that the next step in the training after graduation is an assistant residency.

A 3-3-3-3-plan for the basic preparation of physicians for practice seems to be a very definite possibility. Three years of well-planned high school work, three years of liberal arts, three years of basic medical science and physical diagnosis, culminating in three years of carefully supervised clinical work in the hospital and clinic, *could* prepare a student to begin the practice of medicine and at an age four years younger than is now the case. Is this not a challenge which medical education must face squarely and promptly? D.F.S.

The Ford Foundation Allocates the Remainder of Its Ninety Million Grant

ON MARCH 29, 1957 the Ford Foundation announced the distribution of the $68,250,000 remaining in the $90 million appropriation made to privately supported medical schools of the U.S. Initial grants totaling $21,750,000, approximately $500,000 per school, went to 45 medical

schools last September. Checks for the remainder are scheduled for mailing on or about May 20, 1957.

It will be recalled that this $90 million grant to the medical schools is a part of the $500 million appropriation announced by the Foundation on December 12, 1955, the other part of that appropriation being a $200 million gift to improve private hospital services and a $210 million gift to the private colleges and universities to raise faculty salaries. It should also be pointed out that since the December 12, 1955 grant the Foundation has appropriated an additional $10 million to match contributions made by industry and individuals to the National Fund for Medical Education.

These recently announced grants are not to be used by the schools to meet construction or research needs, but are to be held as invested endowment for at least 10 years. The income during this 10 year period will be used to strengthen instruction and after the lapse of 10 years, the schools are free to use the principal sum as well as the endowment income for this purpose.

The Foundation was assisted in determining the size of the grants for the individual schools by its Medical School Grants Advisory Committee of 15, under the chairmanship of Lee DuBridge, president of the California Institute of Technology.

Taken into account in determining the grant to each school were the size of the student body, the quantity and quality of research activities, special contributions toward advancement of the medical profession, relative investments in research and in the various teaching departments and the amount of aid received from state, federal or local government. The total grants to the different schools ranged from $600,000 to each of two schools to $3.6 million to each of six schools.

This contribution to medical education is a very significant one and will do much to strengthen the salary structure of the privately supported medical schools as well as highlight the increasing financial needs of medical education. The Ford Foundation is certainly to be congratulated on the generosity, timeliness and wisdom of purpose of this much needed grant. D.F.S.

The 1957 Orientation Tour of the MEND Coordinators

THE 36 MEND COORDINATORS, including the deans of three of the medical schools, assembled on Wednesday, March 20, at the El Cortez Hotel in San Diego, Calif. Accompanying the group were the National Coordinator, Dr. James R. Schofield, the Assistant National Coordinator, Lt. Donald S. Smith II, Captain E. V. Jobe (MC) U.S.N. of the Training Branch of the U.S. Navy and Dr. Dean F. Smiley, Secretary of the Association of American Medical Colleges.

The first three days of the tour were spent in the San Diego area with visits to the Marine Corps Recruit Depot for the purpose of observing the physical examining, processing and training of recruits; to the Navy Electronic Laboratory to learn of the Sound Studies being conducted there; to the Naval Air Station, Miramar, to see the Navy's newest jet planes in action; to the Marines' Field Medical Service School at Camp Pendleton to observe the utilization of medical field equipment, and the

modern training in casualty handling; to the Naval Air Station at North Island to see the Navy's new Hi-Altitude suit, low pressure chamber and ejection seat, observe an Air Defense "Scramble" and have dinner aboard an aircraft carrier; and finally to the Navy Hospital to observe the training program for interns, residents and hospital corpsmen.

On Sunday, March 24, the group was flown by Navy plane to San Antonio where they were quartered at the Brooke Army Medical Center, Fort Sam Houston. Included in the three-day stay at San Antonio were: a tour of the facilities of the Brooke Army Medical Center, lectures and demonstrations at the Army Medical Service School, a trip to Camp Bullis to observe the Army's system of casualty evacuation, the Army Medical Service in support of an infantry battalion in attack, a demonstration of a field hospital, the operation of a battalion aid station, and a visit to the School of Aviation Medicine, Randolph Air Force Base.

At the latter school there were presentations of new developments in aviation medicine and "space medicine" as well as demonstrations of aeromedical evacuation, wing medical support facilities and an airborne emergency hospital.

The last day and night of the tour were devoted to observing the briefing of public health and medical personnel and the setting up and operation of two 200-bed Civil Defense Emergency Hospitals in the simulated bombing of the city of Houston.

It was the opinion of the group that much had been learned which could be carried back with benefit to the schools from which the coordinators came, and great appreciation was expressed to the National Coordinator and to the medical officers as well as officers of the line whose fine planning made this very instructive tour possible. D.F.S.

Our Readers Write

LETTER TO CHAIRMAN OF EDITORIAL BOARD

Dear Dr. Bowers:

I READ WITH GREAT interest Dr. Ackerknecht's article on Medical Education in 19th century France, published in the February 1957 issue of the Journal of Medical Education. However, in his conclusion, the author states "Their system was primarily created to produce competent practitioners. *This goal is fully reached. It created superb practitioners and it still does.*"

I believe that such a generalization is misleading if it applies to present day medical education in France. Indeed, as I pointed out in this journal (30, 647, 1955) among French medical students, only the "interns or externs" who have successfully passed a competitive examination, and who only represent one-fifth of the student body, are able to receive close attention from the senior staff of the teaching hospital and can get a close look to the patient. Externs and interns do receive a broad clinical training and many become outstanding clinicians, especially if they follow up the special competitive examinations until they are 40 years of age or older.

However, the four-fifths of the remaining medical students and future practitioners who are not extern or intern, have little opportunity to learn clinical medicine as they roam every morning for five years by groups of up to 100 through the wards of the teaching hospitals. It was to correct this deficiency that a sixth year of "clinical training" was added to the curriculum in 1936 and it was designed especially for students who were neither extern or intern. However, this year of clinical training is spent in a non-teaching hospital out in a community or a small city hospital, where "stagiare interne" (apprentice intern) is only supervised by the local staff, which is not specially trained for teaching. Furthermore the lack of postgraduate medical teaching adds to the already limited training of the general practioner falling in this category.

On the basis of these facts, it is safe to say that the original goal of the French system of medical education is no longer fully reached, since only one-fifth of the students receive a thorough clinical training. In my opinion, only a thorough overhaul of French medical education, will change this situation which in fact, has led to a double standard in medical training. Furthermore, such an overhaul is essential, if teaching and research in the medical sciences, in France is to follow the present trend and integrate itself in a European community, and I believe that it is forthcoming. *Sincerely yours, G. G. Nahas, University of Minnesota Medical School.*

An Interesting Analogy

IN COMMON language, we may describe the nucleus as the administrator of the cell. It shares two attributes with more familiar administrators: it tends to perpetuate its kind, and it defies so successfully our efforts to learn what it is doing that only by trying to get along without it can we satisfy ourselves that it is working at all.

Daniel Mazia, Symposium from the Henry Ford Hospital International Symposium on Enzymes. Academic Press, 1956.

NEWS DIGEST

MEND News

Thirty-eight representatives of medical colleges participated in the MEND-sponsored symposium on "Man and His Environment" during the period April 1-5. Part I of this program, "Submarine and Diving Medicine," was presented by U. S. Navy personnel at the Experimental Diving Unit in Washington, D.C. Part II, "Man in an Airborne Environment," was conducted by the U. S. Air Force at the Aero Medical Laboratory, Wright-Patterson Air Force Base, Dayton, Ohio.

Another MEND-sponsored symposium was presented on April 15-17, by the Walter Reed Army Institute of Research in Washington, D.C. Dealing with "Social and Preventive Psychiatry," this presentation was attended by 54 medical school faculty members.

Selection of the next group of ten medical colleges for affiliation with MEND is tentatively scheduled to be made in June, with the schools which are elected to begin their affiliation as of January 1, 1958. Invitations to apply for participation have been extended to all medical colleges which are not presently taking part in the MEND Program.

Public Health Service Grants

The Public Health Service has approved the awarding of 35 grants to 27 institutions, chiefly universities, to aid in construction or improvement of research facilities. Three of the recipients will get more than one-half of the total; The University of Minnesota, $1,006,015; Bowman Gray School of Medicine, $598,473, and the University of Oklahoma Medical Center, $400,000. A few of the grants are for the purchase of equipment. These are on a dollar for dollar matching basis similar to construction subsidies.

Public Health Service approvals follow recommendations made by the Health Research Facilities Council at its meeting several weeks ago. The full appropriated amount of $30 million has now been committed. At the council's next meeting, May 27-29, it will consider applications for financing from the second of three $30 million allotments in a scheduled 3-year program.

Issue of U. S. Awarding Degrees

Pros and cons of authorizing Walter Reed Army Institute of Research to award master's and doctor's degrees were aired at a House meeting in March. Before there is any action on the enabling bill (HR 3516), it may schedule further hearings. Witnesses included Dr. Ward Darley, Executive Director of the Association, in opposition and Dr. William S. Stone and Dr. Colin MacLeod in support of the bill. Testimony of Dr. Darley was given in behalf of the American Council on Education. The others appeared as individuals.

National Library of Medicine

A 10-man board of regents has been nominated by President Eisenhower to guide the new National Library of Medicine. One of the responsibilities of the board will be to recommend the site for a new building. The building was authorized by Congress, but construction funds were omitted from the Eisenhower budget.

School of Aviation Medicine

Construction has begun on a new $9 million installation for the School of Aviation Medicine at Brooks Air Force Base, San Antonio, Texas. Civic leaders and Air Force officials will take part in a formal ground-breaking ceremony at Brooks on May 10.

Among the Air Force officers ex-

pected to be present are Lt. Gen. Dean C. Strother, who commands the Air University, of which the School is the medical branch, and Maj. Gen. Dan C. Ogle, the Surgeon General.

The school hopes that it can move to the new facility, from its present headquarters at Randolph Air Force Base, by July 1959.

Audio-visual Aid on Practice Problems

The new doctor's crucial problem of "Where Should I Practice?" is dramatized in a new audio-visual aid now being made available to medical students, interns, and residents through their teaching centers.

Part of a 10-unit educational series designed to help teach medical economics and basic business techniques, this new aid is intended to acquaint new doctors with the major pitfalls involved in setting up and managing a practice and how to avoid them.

Issues ranging from financing the new practice to fee establishment and collection are dramatized in colorful cartoon-type filmstrips. Each film presents a different problem in capsule form, incorporating information gathered from diverse but authoritative sources, and maps are presented to help solve problems as ease of establishment and economic potential of the area.

The series is being released by Mead Johnson & Company as part of the firm's continuing program of professional assistance which also includes research grants, graduate training awards and scholarships. The complete series is entitled "Business Management in Medical Practice" and filmstrip showings may be arranged by writing to the Professional Relations Director, Mead Johnson & Company, Evansville 21, Indiana.

Dominican Government Grant to WHO

A check for $100,000 was presented to Dr. Fred L. Soper, Director of the Pan American Sanitary Bureau, Re-

The plight of a young doctor about to start his own practice is the subject of Mead Johnson & Co's new audio-visual aid. (see story above)

gional Office of the World Health Organization, by the Ambassador of the Dominican Republic to the United States, His Excellency Joaquin E. Salazer. The presentation ceremony took place on April 5, at Pan American Sanitary Bureau Headquarters.

This money is the first installment of a $500,000 contribution of the Dominican Government for the Special Fund for Malaria Eradication of the Pan American Sanitary Organization. It is the second contribution to the Special Fund, the first, in the amount of $1,500,000 having been made last month by the Government of the United States.

Army Announces Largest Medical Intern Training Group

Army hospitals in this country and overseas will welcome 164 graduates from 71 approved medical schools as interns for the year beginning July 1. The interns represent all sections of the United States and were selected by the Army Medical Service in participation with the sixth National Intern Matching Program.

This is the largest number of medical interns to be admitted at one time by the Army Medical Service since the establishment of such training. These physicians will be commissioned first lieutenants in the Army Medical Corps upon entering the service and at the close of the one year internship will become captains if they remain in the service.

International Conventions To Communicate

Two of the world's medical confraternities — the physicians of the United States and the United Kingdom — will be linked across the Atlantic via the new underseas cable on Wednesday, June 5. For the first time in history, two medical conventions on different continents will be in direct, two-way communication.

Arranged by Smith, Kline & French Laboratories, the hook-up will join the American Medical Association, then in annual session in New York, and the Harvey Tercentenary Congress, convened in London to commemorate the 300th anniversary of the death of William Harvey, the English physiologist who first described the circulation of the blood. Fittingly, doctors both in New York's Carnegie Hall and London's Great Hall of the Royal College of Surgeons will discuss, "The Results of Cardiac Surgery."

In New York, participants will include Dr. Michael E. DeBakey, Baylor University, chairman of the American panel; Dr. Alfred Blalock, Johns Hopkins University; Dr. John H. Gibbon Jr., Jefferson Medical College; Dr. Frank L. A. Gerbode, Stanford University, and Dr. George E. Burch, Tulane University.

In London, Sir Clement Price-Thomas of Westminister Hospital will head an international panel including Sir Russell Brock, Guy's Hospital, London; Professor G. d'Allaines, Paris, and Dr. Maurice Campbell, also of Guy's Hospital.

United States Steel Foundation Grants

The United States Steel Foundation, Inc., has announced a program of aid-to-education with grants payable in 1957 totaling nearly $1.8 million. Of this amount, $190,000 will be given to medical schools and medical teaching. Operational assistance of $65,000 for all 82 medical schools and the balance for two capital-facility grants for medical teaching centers to enhance and strengthen their programs.

American Heart Association Grants

A broad range of studies in the field of heart and blood vessel diseases will be undertaken by 155 scientists named recently by the American Heart Association to receive $977,000 in research awards.

Major targets of these research studies, to be conducted in the 12 months beginning July 1, will be the causes of coronary heart attacks and strokes, biochemical and physiological processes associated with heart failure and high blood pressure, further development of artificial heart-lungs to facilitate "dry-field" surgery inside the heart.

Memorial Services for Dr. Evarts A. Graham

Memorial Services for the late Dr. Evarts A. Graham, who died March 4, were held in Graham Memorial Chapel on the Washington University campus. Dr. Graham was Bixby Professor of Surgery at Washington University from 1919 until 1951, when he became professor emeritus.

Speakers who took part in the memorial services included Dr. Alfred Blalock, professor of surgery, Johns Hopkins University; Dr. Joseph C. Hinsey, director of New York Hospital-Cornell Medical Center; Dr. Frank B. Berry, Assistant Secretary of Defense in charge of medical services, and Sir Russell C. Brock, thoracic surgeon, Guy's Hospital, London.

Death of Dr. Byrl R. Kirklin

Dr. Byrl R. Kirklin, professor emeritus of radiology in the Mayo Foundation and retired head of the section of diagnostic roentgenology at the Mayo Clinic, died recently. Dr. Kirklin was serving as Secretary-Treasurer of the Advisory Board for Medical Specialties.

College Briefs

Arkansas

Dedication ceremonies for the new Medical Center were held on April 25. Principal speakers included Dr. WARD DARLEY, Executive Director of the Association, Dr. ALBERT W. SNOKE, President of the American Hospital Association and Director, Grace-New Haven Community Hospital; Howard L. BEVIS, Chairman, National Committee for Development of Scientists and Engineers of the National Science Foundation, and The Honorable OREN HARRIS, Congressman from Arkansas.

Baylor

Dr. MICHAEL E. DEBAKEY, professor and chairman of the department of surgery, has been appointed by President Eisenhower to serve as one of the ten charter members of the Board of Regents of the National Library of Medicine. His appointment was confirmed by the United States Senate.

Chicago Medical

Dr. MORRIS A. KAPLAN, assistant professor of medicine, has been appointed the member from the United States to the International Education Committee of the International Association of Allerogology. Each country of the world has one representative on this committee.

Cornell

Dr. JOHN E. DEITRICK has been appointed dean of the Medical College. Dr. Deitrick has been Magee Professor of Medicine at Jefferson Medical College since 1952. He succeeds Dr. E. H. LUCKEY, who will be head of the college's department of medicine.

Duke

Plans for the 1957 post-graduate medical cruise have been announced. Third in an annual series designed to combine medical study with vacationing, this year's cruise will take more than 100 physicians and their families to Scandinavia by way of Ireland and Scotland, August 20-September 9. Participants will come from throughout the United States.

Medical lectures will be given aboard ship by members of the school's faculty, together with round table discussions and clinical pathological conferences. The program will constitute 30 of the 150 hours of postgraduate study required of physicians every three years.

Harvard

Management and medical representatives of 61 companies, from the United States and abroad, which have operations in tropical areas of the world, participated in the Third Conference of The Industrial Council for Tropical Health at a three-day meeting on April 16.

Organized under the leadership of the Harvard School of Public Health the conference is devoted to the exchange of information and ideas on improving the health of people living and working in the countries where the participating companies operate.

Indiana

Dr. WILLIAM M. M. KIRBY has been appointed chairman of the department of medicine, filling the vacancy created by the retirement of Dr. J. O. RITCHEY. Dr. Kirby has been on the faculty at the University of Washington School of Medicine for the last eight years and in addition to his teaching and research duties, has been area consultant for the Veterans Administration in the Pacific Northwest. He is a member of a government medical mission which will go to Japan in June to consult on health conditions of American servicemen.

Jefferson

Dr. WILLIAM A. SODEMAN has been appointed Magee Professor of Medicine and head of the department of medicine. Dr. Sodeman has been professor and chairman of the department of medicine at the University of Missouri School of Medicine since 1953.

Medical Evangelists

The following promotions have been made, to become effective July 1: Dr. MERVYN G. HARDINGE to professor and chairman of the pharmacology and experimental therapeutics department. Dr. Hardinge will replace Dr. CHARLES M. GRUBER, who is retiring. Dr. HAROLD SHRYOCK to professor and chairman of the anatomy department, filling the vacancy created by the retirement of Dr. OTTO KAMPMEIER.

Mississippi

Dr. OSCAR E. HUBBARD, formerly chief of the Mental Health Section of the Alaska Department of Health, has been appointed a professor of psychiatry.

Oklahoma

Dr. G. R. RIDINGS, formerly of the University of Mississippi Medical Center, has become the first full-time head of the department of radiology. Dr. Ridings' appointment now gives the school seven clinical departments with full-time directors.

The school has been awarded a five-year grant in the amount of $184,000 from the National Institute of Mental Health to develop a training program in medical statistics. Dr. CARL R. DOERING, professor of preventive medicine and public health, will direct the program.

Oregon

Dr. GEORGE SASLOW, who is at present clinical professor of psychiatry at Harvard and chief of psychiatry at Massachusetts General Hospital, has been named to head the department of psychiatry, effective June 1. Dr. Saslow succeeds Dr. HENRY H. DIXON, who will continue on the staff as clinical professor of psychiatry. Working in conjunction with the institution's development in the field of psychiatry will be Dr. JOSEPH D. MATARAZZO as professor of medical psychology. Dr. Matarazzo is associate psychologist at Massachusetts General Hospital, and research associate at the Harvard Medical School, and will assume his new position June 1.

Seton Hall

Dr. FRANK S. FORTE has been appointed assistant dean in charge of post-graduate education, succeeding the late Dr. Gerald I. Cetrulo. Dr. Forte is president of the staff, St. Michael's Hospital, Newark and president of the Essex County Service for the Chronically Ill.

Stanford

Dr. ROBERT H. ALWAY has been named acting dean, replacing Dr. WINDSOR C. CUTTING who resigned as dean in January. Dr. Cutting will continue as professor of pharmacology, resuming his teaching and research. Dr. Alway is presently professor and executive head of the department of pediatrics.

An architect's model of the Stanford Medical Center, soon to rise on the campus, was recently revealed at a special showing at the deYoung Museum, Golden Gate Park. Medical school facilities will consist of a rehabilitation center building, outpatient clinics building and two medical science buildings. Also planned for the Center is a new Lane Medical Library. Construction of the building is expected to start in June.

S.U.N.Y. Brooklyn

Dr. JOSEPH PISANI has resigned his position as assistant dean to become full-time medical director of Bankers Trust Company, New York. Dr. Pisani will be in charge of the bank's two health clinics.

S.U.N.Y. Syracuse

Dr. ORREN D. CHAPMAN, professor and chairman of the department of microbiology, has been appointed Special Consultant to the Division of International Health, Bureau of State Services, Public Health Service. Dr. Chapman's work in public health will have special reference to the fourteen countries located in the Middle East region.

Temple

Two grants totaling $82,368 have been received from the Public Health Service for cancer studies. One, in the amount of $70,569 for a three-year study to determine levels of dosage in patients receiving radiation therapy is under the direction of Dr. ROBERT ROBBINS, professor of radiology and director of the radiotherapy department. Dr. CHARLES HARRIS, associate in research pathology of the Fels Research Institute, received a grant of $11,799 for an investigation of transferable leukemia in the rat.

Yale

Dr. CLARENCE D. DAVIS has been appointed associate professor of obstetrics and gynecology, effective April 1. Dr. Davis was formerly professor of obstetrics and gynecology at the University of Missouri Medical School and also served as chairman of that department. While at Yale, in addition to his teaching of graduate and postgraduate courses, he will be a key investigator in the interdepartmental research project on cerebral palsy. The project, supported by a grant of $425,199 from the Public Health Service, is conducted by the departments of obstetrics and gynecology, pediatrics and the section of neurology.

Dr. JOHN F. FULTON, physiologist and medical historian, will receive the honorary Doctor of Letters degree from Oxford University in England this June.

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1. Perkoff, G. T., *et al.*: J. Clin. Endocrinol. *14*:531 (May) 1954. **2.** Abramson, D., and Reid, D. E.: J. Clin. Endocrinol. *15*:206 (Jan.) 1955. **3.** Eichner, E.; Waltner, C.; Goodman, M., and Post, S.: Am. J. Obst. & Gynec. *71*:1035 (May) 1956.

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Audiovisual News

TWO HUNDRED PATHOLOGY FILMS*

*Compiled by Bernard Klionsky***

Pathology, which encompasses the study of disease, is such a broad subject that it is difficult for pathologists and other individuals interested in the utilization of the scientific motion picture to select suitable films from the diverse sources presently available. This list, supplemented when necessary by the use of four of the present catalogs, provides a convenient source of reference which should encourage the use and aid in the selection of films valuable for various teaching activities.

The number of films listed was limited to 200 since it did not seem desirable to duplicate existing film catalogs. Other pertinent titles may be found in the catalogs of the American College of Surgeons (Am.C.Surg.), the Committee on Medical Motion Pictures of the American Medical Association (A.M.A.), the Communicable Disease Center of the Public Health Service (C.D.C.), and the Society of American Bacteriologists (S.A.B.).

Many, but not all, of these films have been reviewed. The Journal of the American Medical Association (J.A.M.A.) and the Journal of MEDICAL EDUCATION (J.M.E.) contain reviews of many medical motion pictures. The year in which such reviews were published has been indicated.

Descriptive information on films may be obtained from the catalogs of distributors.

Each film listed has been assigned a number. Numerals listed beside the film title refer to other films dealing with the same or related subjects.

Information is provided in the following order: film title, physical data, authors and/or producers, distributors (in parentheses), and finally, review sources.

A key to film distributors and to sources of information follows the list.

*This list of motion pictures was compiled for the Ad Hoc Committee of the Pathology Study Section, U. S. Public Health Service, and the Motion Picture Committee of the Intersociety Committee for Research Potential in Pathology, Inc.

**Instructor in Pathology, University of Kansas Medical Center, Kansas City 12, Kansas.

Classification of Films

Cardiovascular Renal Diseases 372
Congenital Malformation 374
Cytology 374
Deficiency Diseases 376
Gastrointestinal Tract 376
General Pathology 377
Hematology 377
History of Pathology 379
Infectious Diseases 379
Methods and Techniques 382
Neoplasms 384
Pathologic Physiology 388
Respiratory Tract 389
Surgical Pathology 389
Tissue Culture 389

Cardiovascular Renal Diseases

1. Kidney Function in Disease (2, 4, 8)
Sd., color, 46 min., 1948.

A. C. Corcoran, D. C. Hines, I. H. Page. *(Lilly, Loan) J.A.M.A., 1949.*

2. Kidney Function in Health (1)
Sd., color, 38 min., 1948.

A. C. Corcoran, D. C. Hines, I. H. Page. *(Lilly, Loan) J.A.M.A., 1949.*

3. The Lymphatic System
Sd., color, 45 min., 1950.

J. M. Yoffey, I.C.I. Film Unit. *(I.C.I., Rental—$8 for 3 days, $16 for week) J.A.M.A., 1955, J.M.E., 1953.*

4. Nephrosis in Children (1)
Sd., color, 18 min., 1954.

Pfizer Laboratories, Campus Film Productions. *(Pfizer, Loan; M.A.V.I., Rental—$2)* J.A.M.A., 1954, J.M.E., 1955.

5. Streamline Flow in Veins
Sd., color, 10 min., 1954.

D. A. McDonald, Wellcome Film Unit. *(A.M.A., Rental—$2; B. W. Loan) J.A.M.A., 1955.*

6. Thrombosis and Embolism, Part 1. Pathogenesis and Clinical Manifestations (7,9)
Sd., b&w., 17 min., 1948.

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N. P. Schenker, H. de Watteville, R. Jurgens, Hoffman-LaRoche & Co. *(M.A.V.I., Rental—$5; Sale—$60) J.M.E., 1953.*

7. Thrombotic and Embolic Phenomena (6, 9) (Excerpt of 6 above)
Sd., b&w., 5 min., 1948.

N. P. Schenker, H. de Watteville, R. Jurgens, Hoffman-LaRoche & Co. *(M.A.V.I., Rental—$2; Sale—$25) J.M.E., 1955.*

8. Urinary Infections: Bacteriology, Pathology and Treatment (1)
Sd., color, 45 min., 1951.

G. Carroll, V. F. Marshall, Medical Film Guild. *(M.F.G., Rental) J.M.E., 1953.*

9. White Thrombo-Embolism on the Minute Cheek Pouch Vessels of the Hamster (6,7)
Si., color, 17 min., 1951.

B. R. Lutz, G. P. Fulton, R. P. Akers. *(Lutz, Rental or Loan; Sale—$95) J.M.E., 1952.*

Additional information about motion picture films in cardiovascular diseases can be obtained from the following source: Ruhe, D. S., Nichtenhauser, A., Leveridge, L. L., Weintraub, H. J., and Luger, N. M. FILMS IN THE CARDIOVASCULAR DISEASES, SURVEY, ANALYSIS AND CONCLUSIONS. International Press, New York, Publishers. 1953 (Copyright).

Congenital Malformations

10. Anomalies of the Aortic Arch
Sd., color, 30 min., 1955.

G. H. Humphreys II, E. W. Thomas, Sturgis-Grant. *(Squibb, Loan)*

11. Coarctation of the Aorta
Sd., color, 16 min., 1952.

D. A. Cooley, M. E. DeBakey, Davis & Geck, Inc. *(D.G., Loan) J.A.M.A., 1948, J.M.E., 1953.*

12. Congenital Anomalies of the Heart and Great Vessels
Sd., color, 40 min., 1950.

T. J. Dry, J. E. Edwards. *(Dry, Rental or Loan)*

13. Congenital Anomalies of the Larynx
Si., color, 16 min., 1954.

P. H. Holinger, K. C. Johnston, F. Schiller. *(Holinger, Rental—$15; Sale—$100) J.M.E., 1955.*

14. Congenital Malformations of the Heart Series, Reel 1: Development of the Normal Heart
Sd., color, 15 min., 1952.

R. F. Rushmer, R. J. Blandau. *(I.M.C., Rental—$2.25; A.M.A., Rental—$3; I.M.C., Sale—$125) J.A.M.A., 1952, J.M.E., 1952.*

15. Congenital Malformations of the Heart Series, Reel 2: Acyanotic Congenital Heart Disease
Sd., color, 14 min., 1952.

R. F. Rushmer. *(I.M.C., Rental—$2.25; A.M.A., Rental—$3; I.M.C., Sale—$115) J.A.M.A., 1953, J.M.E. 1952.*

16. Congenital Malformations of the Heart Series, Reel 3: Cyanotic Congenital Heart Disease
Sd., color, 29 min., 1953.

R. F. Rushmer. *(I.M.C., Rental—$4.25; A.M.A., Rental—$3; I.M.C., Sale—$195) J.A.M.A., 1954, J.M.E., 1953.*

17. Patent Ductus Arteriosus (Two Parts)
Sd., color, 25 min., 1952 (Pt. I), 1950 (Pt. II).

G. H. Humphreys II, Sturgis-Grant. *(Squibb, Loan) J.M.E., 1953.*

18. Tetralogy of Fallot
Sd., color, 30 min.

J. C. Jones, Billy Burke. *(Squibb, Loan)*

Film #31 is also appropriate to this section.

Cytology

19. The Diagnosis of Uterine Malignancies (21, 22, 134, 163, 176)
Sd., color, 13 min., 1949.

L. Scheffey, T. P. Eberhard, W. Lang. *(A.C.S., Loan; Eberhard, Sale—$100) J.A.M.A., 1950, J.M.E., 1952.*

20. The Exfoliative Cytologic Method in the Diagnosis of Gastric Cancer (Balloon Abrasive Method) (30, 150)
Sd., color, 23 min., 1952.

G. N. Papanicolaou, W. A. Cooper. *(A.C.S., Loan and Sale) J.A.M.A., 1952, J.M.E., 1954.*

21. Precancer Diagnosis of Cervix by Cytology (19, 22, 134, 163, 176)
Sd., color, 36 min., 1947

J. E. Ayre. *(A.C.S., Loan; C.A., Rental*

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*Ferguson, J. T., and Linn, F. V. Z.: Antibiotic Med. & Clin. Therapy *3*:329, 1956.

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—$10 per week; C.A., Sale—$275) J.A.M.A., 1948, J.M.E., 1952.

22. The Vaginal and Cervical Smear (9, 21, 134, 163, 176)
Si., color, 27 min., 1947.

C. E. Folsome. *(Ortho, A.C.S., Loan) J.A.M.A., 1949, J.M.E., 1952.*

Deficiency Diseases

23. Experimental Thiamine Deficiency
Sd., color, 7 min., 1950.

Army. *(Army, Loan—PMF 5169) J.A.M.A., 1950.*

24. Nutritional Aspects of Tropical Disease
Sd., color, 30 min., 1950

Squibb. *(Squibb, Loan) J.A.M.A., 1951.*

25. Riboflavin Deficiency
Si., color, 40 min., 1942.

Nutrition Clinic, University of Cincinnati *(Lilly, Loan)*

26. Thiamine Chloride Deficiency
Si., color, 34 min.

T. D. Spies, Mervin W. LaRue. *(Lilly, Loan)*

Gastrointestional Tract

27. Diseases of the Appendix
Si., color, 18 min., 1953.

H. P. Jenkins, D. Packard. *(D.G., Loan; M.A.V.I., Rental—$2) J.A.M.A., 1954, J.M.E., 1954.*

28. Diseases of the Esophagus (36, 146, 147)
Si., color, 27 min., 1946.
P. H. Holinger. *(Holinger, Rental—$15; Sale—$175) J.M.E., 1952.*

29. Diseases of the Gall Bladder (32)
Si., color, 19 min., 1949.

H. P. Jenkins. D.G., Loan; *M.A.V.I., Rental—$2;) J.A.M.A., 1949, J.M.E., 1953.*

30. Diseases of the Stomach and Duodenum (20, 38, 150)
Si., color, 18 min., 1950.

H. P. Jenkins, D. Packard. *(D.G., Loan; M.A.V.I., Rental—$2) J.M.E., 1953.*

31. Embryology and Pathology of the Intestinal Tract
Sd., color, 14 min., 1954.

L. Chaffin, W. Snyder, Graphic Films Corp. *(Am. C. Surg., Loan, Service Charge—$3; M.A.V.I., Rental—$7; G.F.C., Sale—approx. $110.)*

32. Gallstone Ileus (29)
Si., color, 14 min., 1952.

H. P. Jenkins, W. Kollert, R. Kjellberg. *(D.G., Loan; M.A.V.I., Rental—$2) J.M.E., 1954.*

33. Hemorrhage from Duodenal Ulcer (30, 39)
Si., color, 11 min., 1953.

H. P. Jenkins. *(D.G., Loan; M.A.V.I., Rental—$2) J.A.M.A., 1954, J.M.E., 1954.*

34. Intestinal Obstruction due to *Ascaris Lumbricoides*
Si., color, 14 min., 1954.

H. P. Jenkins, D. J. Pachman. *(D.G., Loan; M.A.V.I., Rental—$2) J.A.M.A., 1954, J.M.E., 1954.*

35. Mesenteric Thrombosis and Adhesion Band Strangulation
Si., color, 17 min., 1951.

H. P. Jenkins, R. Moe, D. Packard, R. Gunning. *(D.G., Loan; M.A.V.I., Rental—$2) J.M.E., 1953.*

36. The Normal Esophagus (28)
Si. (sd. speed), b&w, 6 min., 1953.

R. Janker, G. Ramsey, J. S. Watson, Jr., S. A. Weinberg, M.A.V.I. *(M.A.V.I., Rental—$2; Sale—$15)*

37. The Normal Stomach
Si. (sd. speed), b&w., 9 min., 1953.

R. Janker, G. Ramsey, J. S. Watson, Jr., S. A. Weinberg, M.A.V.I. *(M.A.V.I., Rental—$2; Sale—$20)*

38. Pathologic Findings in the Stomach (20)
Si. (sd. speed) b&w, 6 min., 1953.

R. Janker, G. Ramsey, J. S. Watson, Jr., S. A. Weinberg, M.A.V.I. *(M.A.V.I., Rental—$2; Sale $20)*

39. Perforated Ulcer (30, 33)
Si., color, 13 min., 1948.

H. P. Jenkins, H. G. Reiser, D. S. Fox. *(M.A.V.I., Loan—$2) J.A.M.A., 1948.*

40. Polyps of the Large Intestine (41, 135, 145, 166, 170)
Si., color, 18 min., 1951.

H. P. Jenkins, M. Newman, R. Janda. *(D.G., Loan; M.A.V.I., Rental—$2) J.M.E., 1953.*

41. Sigmoid, Rectum and Anal Canal Endoscopic Views (40)
Si., color, 28 min., 1950.

J. P. Nesselrod, J. M. Garner. *(A.M.A., Rental—$2) J.A.M.A., 1951.*

42. Viral Hepatitis
Sd., b&w., 20 min., 1953.

Army. (Army, Loan—FG 8-6) J.A.M.A., 1954.

General Pathology (Miscellaneous)

43. Atomic Medical Cases (49)
Sd., color, 37 min., 1945.

Army. *(Army, Loan—PMF 5143; U.W., Sale—$64.54) J.A.M.A., 1950, J.M.E., 1951.*

44. Career: Medical Technologist
Sd., color, 23 min., 1954.

Am. Soc. Med. Technologists, Am. Soc. Clin. Path., Coll. Am. Path. *(A.M.A., Rental—$2; N.C.M.T., Sale —$135) J.A.M.A., 1954.*

45. Clinical Shock
Sd., b&w., 50 min., 1952.

Army. *(Army, Loan—PMF 5108) J.A.M.A., 1953, J.M.E., 1953.*

46. Fractures: An Introduction
Sd., color, 26 min., 1948.

H. L. McLaughlin, Eddie Albert Productions. *(Princeton, Loan and Sale) J.M.E., 1952.*

47. General Adaptation Syndrome (2 Parts)
Sd., color, 79 min., 1949.

Army. *(A.F.I.P., Loan—PMF 5151) J.M.E., 1957.*

48. Gout and Gouty Arthritis
Sd., color, 18 min., 1954.

J. H. Talbott, A. B. Gutman. *(S.D., Loan) J.A.M.A., 1955, J.M.E., 1956.*

49. The Medical Effects of the Atomic Bomb. Part II: Pathology and the Clinical Problem (43)
Sd., color, 37 min., 1949.

Army. *(Army, Loan—PMF 5148); U.W., Sale—$201.65) J.M.E., 1951.*

50. Myasthenia Gravis: Diagnosis, Treatment and Management
Sd., color, 27 min., 1955.

K. E. Osserman, Sturgis-Grant. *(M.G.F., Loan; Sale—$200) J.A.M.A., 1956, J.M.E., 1956.*

51. Necropsy of an Elephant
Sd., color, 10 min.

Army. *(Army, Loan—PMF 5101)*

52. Pheochromocytoma—A Cause of Hypertension—Diagnosis and Treatment
Sd., color, 25 min., 1954.

K. S. Grimson. *(S.G., Rental or Loan) J.A.M.A., 1954.*

53. Primary Hyperparathyroidism (55)
Si., color, 20 min., 1951.

J. W. Baker, R. P. Pillow, Davis & Geck, Inc. *(D.G., Loan) J.A.M.A., 1953.*

54. Sciatic Pain and the Intervertebral Disc
Sd., color, 33 min., 1945.

Navy. *(Navy, Loan—MN 1966; A.M.A., Rental—$1; U.W., Sale—$194.69) J.A.M.A., 1952. J.M.E., 1952.*

55. Some Aspects of Clinical Endocrinology (53)
Si., b&w., 70 min.

L. Hurxthal, Worcester Film Corp. *(W.F.C., Rental or Loan) J.A.M.A., 1948.*

Hematology

56. Anemia
Sd., color, 28 min., 1952.

Wm. Dameshek. *(Squibb, Loan) J.A.M.A., 1953.*

57. Blood Grouping
Sd., color, 22 min., 1954.

Mile End Hospital, London. *(I.C.I., Rental, $8 for 3 days; $16 for week) J.A.M.A., 1955.*

58. A Cinematographic Record of Human Peripheral Blood Leukocytes
Si., b&w., 25 min., 1954.

K. M. Richter. *(M.A.V.I., Rental—$4) J.M.E., 1955.*

59. Emergency Blood Collection and Administration
Sd., b&w., 26 min., 1952.

Film Counselors, Inc. *(N.Y., Loan and Sale) J.M.E., 1954.*

60. Hematological Technique for Charging the Hemocytometer
Sd., color, 6 min., 1954.

Navy. *(Navy, Loan—MN 9375-b; U.W., Sale—$37.42)*

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Additional descriptive lists of films about microbiology, parasitology and epidemiology are available from the Society of American Bacteriologists (S.A.B.) and the Communicable Disease Center (C.D.C.) of the Public Health Service.

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Si., b&w., 29 min.

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N.F.I.P. *(N.F.I.P., Loan) J.A.M.A., 1951.*

111. The Diagnosis of Tuberculosis with an Improved Culture Medium (80, 82, 102, 121)
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C.D.C. *(C.D.C., Loan) J.A.M.A., 1948.*

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116. Infectious Hazards of Bacteriological Techniques (117)
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118. Laboratory Diagnosis of Diphtheria: Parts I, II, III, IV
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122. Post Mortem Tissue Donation
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Harry E. Morton, Sturgis-Grant. *(S.A.B., Loan—Service charge; S.G., Loan; A.S.C., Loan) J.M.E., 1953.*

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124. Principles of Biopsy
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Univ. of Minn. School of Dentistry. *(A.D.A., Rental—$2.50)*

125. Principles: Collection of Bronchial Washings
Si. (sd. speed), color, 4 min., 1954.

V. F. Bazilauskas, M.A.V.I. *(M.A.V.I., Rental—$3; Sale—$25)*

126. Technique: Collection of Bronchial Washings
Si. (sd. speed), color, 4½ min., 1954.

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127. Technic of Injection in Animals (Two Parts)
Si., color, 27 min. (Pt. I, 12 min., Pt. II, 15 min.)

Robert P. Walton, Medical School of South Carolina Dept. Pharmacology. *(M.A.V.I., Rental—Part I—$4, Part II —$5)*

128. Tumor Transplantation in the Hamster Cheek Pouch
Si., color, 15 min., 1951.

B. R. Lutz, G. P. Fulton, D. I. Patt, A. H. Handler. *(Lutz, Rental or Loan)*

For additional films on the methods and techniques of tissue culture, see titles 194-200.

Neoplasms

129. Benign Dental Tumors (137, 156, 160, 165)
Sd., color, 29 min., 1950.

Army *(Army, Loan—PMF 5136)*

130. Breast Cancer: The Problem of Early Diagnosis (131, 144, 162, 168)
Sd., color, 34 min., 1949.

A.C.S., N.C.I., Audio Productions, *(A.C.S., Loan; A.F., Loan; A.C.S., Sale—$146.20) J.A.M.A., 1950, J.M.E., 1952.*

131. Breast Self-Examination (130, 144, 162, 168)
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A.C.S., N.C.I., Audio Productions, Inc. *(A.C.S., Loan; A.F., Loan; A.C.S., Sale —$62.10) J.A.M.A., 1950, J.M.E., 1952.*

132. Bronchiogenic Carcinoma (133, 154, 157, 174)
Sd., color, 16 min., 1951.

V.A. *(V.A., Loan; U.W., Sale—$98.49) J.A.M.A., 1951, J.M.E., 1953.*

133. Bronchoscopic Cinematography of Bronchiogenic Tumors (132, 154, 157, 174)
Si., color, 17 min., 1947.

P. H. Holinger, R. G. Rigby. *(Holinger, Rental—$15; Sale—$100) J.M.E., 1953.*

134. Cancer of the Cervix (19, 21, 22, 163, 176)
Sd., color, kinescope, 47 min., 1954-1955.

A.C.S., H. C. Taylor, Jr., S. B. Gusberg, H. W. Jacox, M. Lenz. *(A.C.S., Loan and Sale)*

135. Cancer of the Colon and Rectum (40, 145, 150, 166, 170)
Sd., color, kinescope, 39 min., 1954-1955.

A.C.S., G. E. Binkley, M. R. Deddish, L. Loseke, M. W. Stearns, Jr. *(A.C.S., Loan and Sale)*

136. Cancer Detection
Sd., color, kinescope, 38 min., 1954-1955.

E. Day, H. Randall, G. Papanicolaou, G. Bader. *(A.C.S., Loan and Sale) J.A.M.A., 1956.*

137. Cancer of the Oral Cavity (129, 151, 160, 165)
Sd., color, kinescope, 32 min., 1954-1955.

M. Lenz, E. M. Daland, E. V. Zegarelli, A. P. Stout. *(A.C.S., Loan; Sale—$183.55) J.A.M.A., 1956.*

138. Cancer: The Problem of Early Diagnosis
Sd., color, 30 min., 1949.

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139. Cancer of the Prostate
Sd., color, kinescope, 50 min., 1954-1955.

P. B. Hudson, E. E. Sproul. *(A.C.S., Loan and Sale)*

140. Cancer Quest
Sd., color, 27 min., 1954.

Wisconsin Div. of A.C.S. *(U.W.E.D., Rental—$5; Sale—$156) J.A.M.A., 1954.*

141. Cancer: A Research Story
Sd., color, 27 min., 1953.

A.C.S., Teleprograms, Inc. *(A.C.S., Loan; Sale—$138) J.A.M.A., 1954, J.M.E., 1954.*

142. Cancer of the Thyroid
Sd., color, kinescope, 29 min., 1954-1955.

AC.S. *(A.C.S., Loan and Sale)*

143. Cancer of the Urinary Bladder
Sd., color, kinescope, 48 min., 1954.

W. F. Whitmore, V. F. Marshall, J. L. Green. *(A.C.S., Loan and Sale) J.A.M.A, 1955.*

144. Carcinoma of the Breast (130, 131, 162, 168)
Si., color, 32 min., 1937.

H. Trout. *(A.C.S., Loan and Sale)*

145. Carcinoma of the Cecum and Ascending Colon (40, 135, 150, 166, 170)
Si., color, 19 min., 1951.

H. P. Jenkins, R. Gunning, J. Campiche. *(D.G., Loan; M.A.V.I., Rental—$2) J.M.E., 1953.*

146. Carcinoma of the Esophagus: Advanced Cases (36, 147)
Si. (sd. speed), b&w., 6 min., 1953.

R. Janker, M.A.V.I. *(M.A.V.I., Rental—$2; Sale—$15)*

147. Carcinoma of the Esophagus Invading the Trachea (36, 146)
Si., (sd. speed), color, 6 min., 1953.

R. Janker, P. H. Holinger, M.A.V.I. *(M.A.V.I., Rental—$3; Sale—$35)*

148. Chemotherapy: A Research Frontier
Sd., color, kinescope, 44 min., 1954.

C. P. Rhoads. *(A.C.S., Loan and Sale)*

149. Dividing Cancer Cells in Vitro
Si., b&w., 7 min., 1935.

W. H. Lewis, M. R. Lewis. *(Wistar, Rental; A.C.S., Loan; Wistar, Sale) J.M.E., 1952.*

150. Gastrointestinal Cancer: The Problem of Early Diagnosis (20, 135, 166, 170)
Sd., color, 33 min., 1950.

A.C.S., N.C.I., Audio Productions. *(A.C.S., Loan; Sale—$138.28) J.A.M.A., 1950, J.M.E., 1952.*

151. Head and Neck Cancer (129, 137, 160)
Sd., color, kinescope, 45 min., 1954-1955.

Hayes Martin. *(A.C.S., Loan and Sale)*

152. Inside the Cell, Part I: Enzymes in Intra-Cellular Chemistry
Sd., color, 45 min., 1949.

Army. *(A.F.I.P., Loan- PMF5077-a; U.W., Sale—$263.14) J.A.M.A., 1950 J.M.E., 1953.*

153. Inside the Cell, Part II: Regulation of Enzymes
Sd., color, 43 min.

Army. *(A.F.I.P., Loan- PMF5077-b; U.W., Sale—$252.14)*

154. Lung Cancer: The Problem of Early Diagnosis (132, 133, 157, 174)
Sd., color, 33 min., 1954.

A.C.S., N.C.I., Audio Productions. *(A.C.S., Loan; Sale—$134) J.A.M.A., 1956, J.M.E., 1956.*

155. Lymphomas and Leukemias (159)
Sd., color, kinescope, 55 min., 1954-1955.

A. Gellhorn, E. Sproul, R. Guttman, G. Hyman. *(A.C.S., Loan and Sale) J.A.M.A., 1955.*

156. Malignant Oral Tumors (129, 137, 160, 165)
Sd., color, 40 min., 1950.

Army. *(Army, Loan- PMF5137; U. W., Sale—$238.67) J.A.M.A., 1950.*

157. Malignant Tumors of the Lungs (132, 133, 154, 172)
Si. (sd. speed), b&w., 6 min., 1953.

N. P. Schenker, R. Janker, M.A.V.I., *(M.A.V.I., Rental—$2; Sale—$20)*

158. Moles and Melanoma (161, 167)
Sd., color, 7 min., 1945.

Navy, Audio Productions. *(Navy, Loan-MN 2713; A.M.A., Rental—$1; U.W., Sale—$44.18) J.A.M.A., 1948.*

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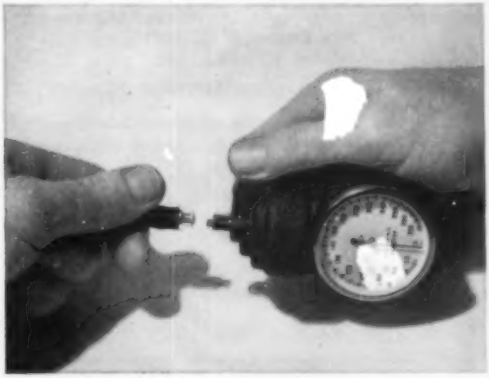

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159. Mycosis Fungoides (155)
Sd., color, 16 min., 1952.

V.A. *(V.A., Loan; U.W., Sale—$95.99) J.A.M.A., 1953.*

160. Oral Cancer: The Problem of Early Diagnosis (129, 137, 151, 156, 165)
Sd., color, 32 min., 1953.

A.C.S., N.C.I., Audio Productions. *(A.C.S., Loan; Sale) J.A.M.A., 1954, J.M.E., 1954.*

161. Skin Cancer (158, 167)
Sd., color, 25 min., 1944.

E. C. Fox *(Fox, Rental or Loan)*

162. Some Aspects of Accessible Cancer, Part IV—Breast (130, 131, 144, 168)
Sd., b&w., 27 min., 1951.

British Ministry of Health. *(B.I.S., Rental—$10; Sale—$400 for series, $90 each part) J.A.M.A., 1954.*

163. Some Aspects of Accessible Cancer, Part V—Cervix and Uterus (19, 21, 22, 134, 176)
Sd., b&w., 34 min., 1951.

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164. Some Aspects of Accessible Cancer, Part III—Larynx (191)
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165. Some Aspects of Accessible Cancer, Part II—Lip, Tongue and Mouth (129, 137, 156, 160)
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168. Technique of Aspiration Biopsy in the Breast (130, 131, 144, 162)
Si. (sd. speed), 6 min., 1954.

V. F. Bazilauskas, M.A.V.I. *(M.A.V.I., Rental—$3; Sale—$34)*

169. Technique of Excision Biopsy
Si. (sd. speed), color, 11 min., 1954.

V. F. Bazilauskas, M.A.V.I., *(M.A.V.I., Rental—$4; Sale—$60)*

170. Technique of Rectal Biopsy (40, 135, 145, 150, 166)
Si. (sd. speed), color, 3 min., 1954.

V. F. Bazilauskas, M.A.V.I. *(M.A.V.I., Rental—$2; Sale—$20)*

171. Technique of Skin Biopsy
Si. (sd. speed), color, 6 min., 1954.

V. F. Bazilauskas, M.A.V.I. *(M.A.V.I., Rental—$3; Sale—$36)*

172. Teratoma of the Lung (157)
Si., color, 11 min., 1944.
H. Brunn. *(A.C.S., Loan)*

173. Tumors of the Bone
Sd., color, kinescope, 49 min., 1954-1955.

B. L. Coley, (N. L. Higinbotham, Robert E. Carroll. *(A.C.S., Loan and Sale)*

174. Tumors of the Bronchi (132, 133, 154, 157)
Si., color, 17 min., 1945.

P. H. Holinger, R. G. Rigby. *(Holinger, Rental—$15; Sale—$125) J.M.E., 1951.*

175. Tumors of Childhood
Sd., color, kinescope, 44 min., 1954-1955.

H. W. Dargeon and Associates. *(A.C.S., Loan and Sale)*

176. Uterine Cancer: The Problem of Early Diagnosis (19, 21, 22, 134, 163)
Sd., color, 21 min., 1951.

A.C.S., N.C.I., Audio Productions. *(A.C.S., Loan; Sale—$88.20) J.A.M.A., 1952, J.M.E., 1952.*

An additional list of motion picture films about neoplasms may be obtained from the American Cancer Society (A.C.S.).

Pathologic Physiology

177. Aortic Valve Movements. Preliminary Study of Unfixed Post-Mortem Valves*
Si., color, 7 min., 1952.

Ian K. R. McMillan. *(M.A.V.I., Rental—$4) J.M.E., 1954.*

178. Cardiac Output in Man
Sd., color, 38 min., 1951.

J. McMichael. *(I.C.I., Rental—$8 for 3 days, $16 for week) J.M.E., 1953.*

179. A Cinematographic Study of the Function of the Mitral Value in Situ
Sd., color, 13 min., 1952.

A. Kantrowitz, E. S. Hurwitt. *(A.M.A., Rental—$2; M.A.V.I., Rental—$5; M.A.V.I., Sale—$85) J.A.M.A., 1953, J.M.E., 1953.*

180. The Effects of Metallic Ions and Osmotic Disturbances on the Heart
Si., b&w., 12 min., 1944.

K. G. Wakim, Audio-Visual Center, Indiana University. *(Ind., Rental—$1.75; M.A.V.I., Rental—$4; Ind., Sale—$36) J.A.M.A., 1950, J.M.E., 1952.*

181. Principles of Respiratory Mechanics (Part I) (183)
Sd., color, 22 min., 1954.

Dept. Physiology, Harvard School of Public Health. *(A.M.A., Rental—$1)*

*This film revised 1956. New title: The Action of Human Mitral and Aortic Valves Studied Post-Mortem by Cinematography *(19 min., M.A.V.I., Rental—$6)*

See also films 1, 2, 3, 5, 6, 7 and 9

Respiratory Tract

182. Acquired Lesions of the Epiglottis
Si. (sd. speed), color, 6 min., 1953.

L. H. Clerf, N. P. Schenker, M.A.V.I. *(M.A.V.I., Rental—$3; Sale—$40)*

183. The Bronchopulmonary Segments, Part 1—Anatomy and Bronchoscopy (181)
Sd., color, 31 min., 1955.

C. L. Jackson, J. A. Huber, C. M. Norris, Campus. *(Pfizer, Loan; M.A.V.I., Rental—$2) J.M.E., 1955.*

184. Broncho-Vascular Anatomy
Sd., color, 23 min., 1955.

W. E. Bloomer, A. A. Liebow, M. R. Hales. *(Liebow, Rental or Loan)*

185. Contact Ulcers and Granulomas of the Vocal Cords
Si. (sd. speed), color, 4 min., 1953.

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186. Cysts and Polyps of the Vocal Cords
Si. (sd. speed), color, 6 min., 1953.

L. H. Clerf, N. P. Schenker, M.A.V.I. *(M.A.V.I., Rental—$4; Sale—$45)*

187. Diseases of the Ear, Nose and Throat
Si., color, 33 min., 1948.

P. H. Holinger, *(Holinger, Rental—$15; Sale—$250) J.M.E. 1952.*

188. Endoscopic Appearance of Diseases of the Trachea
Si., color, 24 min., 1951.

P. H. Holinger. *(Holinger, Rental—$15; Sale—$150) J.M.E., 1952.*

189. The Infant Larynx
Si., color, 15 min., 1946.

P. H. Holinger, Rental—$15; Sale—*$100) J.M.E., 1952.*

190. Organic Disorders of the Larynx (164)
Si., color, 27 min., 1947.

P. H. Holinger. *(Holinger, Rental—$15; Sale—$175) J.M.E., 1951.*

191. Otoscopic Cinematography of the Tympanic Membrane and Middle Ear
Si., color, 24 min., 1953.

P. H. Holinger. *(Holinger, Rental—$15; Sale—$150) J.A.M.A., 1954.*

192. Vocal Nodules
Si (sd. speed), color, 2½ min., 1953.

P. H. Holinger, L. Clerf, M.A.V.I. *(M.A.V.I., Rental—$3; Sale—$24)*

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Information about motion picture films of interest to surgical pathologists may be obtained from several sources, including the following:

BULLETIN OF THE AMERICAN COLLEGE OF SURGEONS *(Am. C. Surg.) (which lists films including those of the Surgical Film Library of Davis & Geck (D.G.) American Cancer Society (A.C.S.)*

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193. Activity of Heart Muscle in Tissue Culture
Si., b&w., 15 min., 1938.

C. M. Goss *(Goss, Loan)*

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195. The Cultivation of Living Tissue
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197. Microglia (196, 199)
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See also film 66.

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• TRAINEES IN CARDIOVASCULAR RESEARCH: Applicants are being received for the Cardiovascular Research and Training Program of the departments of physiology and pharmacology, Medical College of Georgia. Program is supported by grants from the American Heart Association, Inc., and the National Heart Institute of the Public Health Service. Salary for one year (July 1, 1957 to June 30, 1958) is $3800 plus $350 for each dependent. First class transportation will be provided for trainee but not dependents. Address: Dr. W. F. Hamilton or Dr. R. P. Ahlquist, Medical College of Georgia, Augusta, Ga.

• SOCIAL AND PREVENTIVE MEDICINE: Professor required to organize and head department. Excellent opportunity to collaborate in public health development of Saskatchewan. Records of universal hospitalization plan provide valuable research material. This medical school is committed to the study of medical care problems of Saskatchewan. Address: Dean of Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

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Information for these columns should reach the Personnel Exchange, Journal of Medical Education, 2530 Ridge Avenue, Evanston, Illinois, not later than the 10th of the month which precedes the month in which the listings will appear.

Personnel Available

• BIOPHYSICIST: Ph.D., interested in senior research-teaching post in physiology or biophysics, including organization and establishment or a department. Address: A-265.

• BIOCHEMIST: Ph.D., male, background in physiology and analytical chemistry. Two years teaching experience. Desires teaching post with research opportunity. Address: A-266.

• PHYSIOLOGIST-PHARMACOLOGIST, Ph.D., 34. Five years medical school teaching experience, married, 4 children, veteran, Protestant, 13 publications, societies, research interest in Intermediary Metabolism, present rank of assistant professor. Desires academic appointment. Address: A-267.

• INTERNIST-FULL TIME CLINICAL TEACHER: 32. family; Exper: many phases teaching program with medical school, also private and county hospital. Special training in rheumatology, psychiatry and research. Leaving military service in June 1957. Desire opportunity to develop and direct medical education in private hospital, or continue prev. academic career. Address: A-268.

• ZOOLOGIST: Ph.D., 1954. General Biology, General Zoology, Embryology, Physiology, Onocology. Desires teaching and research position in basic science school or medical school for 1957. Address: Department of Biology, Brown University, Providence 12, Rhode Island.

• MICROBIOLOGIST, Ph.D., strong background in bacterial physiology, biochemistry, and medical bacteriology; interested in academic or full-time research post. Address: A-270.

• CHEMIST-PHYSIOLOGIST: Ph.D. in Org. Chemistry, recent M.S. in Physiology. Extensive experience in industrial pharmaceutical research. Publications, Patents. Desire position in medical research in academic institution. Address: A-271.

• SURGEON: Several years of cancer surgery. Original clinical research work. Societies. Publications. Languages. Board eligible. Presently holding senior staff position. Desired is preferably a full-time position allowing clinical activities and clinical research. Address: A-272.

• DIPLOMATE AMERICAN BOARD OF SURGERY-F.A.C.S. pending, age 32. Additional 1½ years training in cardiovascular surgery and research. Teaching experience at under-graduate and post-graduate levels in cardiovascular and general surgery. Publications. Desires research and teaching position. Available immediately. Address: A-273.

• PHARMACOLOGIST: M.D., Ph.D. (in pharmacology); 3 years teaching in a medical school and 7 years pharmacological research experience. Desires teaching and/or research position. Address: A-274.

• PHYSIOLOGIST-NEUROPHYSIOLOGIST: Ph.D., 28. Research experience in both peripheral and central nervous system, microelectrode techniques, mechanism of drug action. Teaching experience all phases of physiology. Married, veteran. Desires academic position with opportunity for research. Address: A-275.

• ANATOMIST: M.D., Ph.D. Presently Associate Professor but desires change of locale. Teaching experience in microscopic anatomy; research is histo and cytochemistry. Publications. Desires teaching-research or full time research position in medical center in upper mid-west or far west. Address: A-276.

• JUNE 1957 Ph.D. in Biochemistry and Nutrition. Research interest in cardio-vascular disease, specifically the amino acid composition of serum lipoproteins from normal and atherosclerotic patients. Teaching experience. Seeks full-time position. Address: A-277.

• PHYSICIAN (Specialty Pulmonary Dis), Pharmachologist, Physiology-M.D. 1943, D.Sc. 1954 (Dept. Physiol. and Pharmacol). 3 yrs. Fellow and Instructor Dept. Physiol. and Pharmacol; 3 yrs. Asst. prof. in charge of section on pharmacology, dept. physiol. and pharmacol. and in charge of pulmonary function lab. of polio center associated with medical school. Active research all six years. Position: Teaching, Research, Clinical or Pharmacology. Available summer or fall, 1957. Address: A-278.

• PHYSICIAN-BIOCHEMIST: Training in internal medicine, engaged for past seven years in research in experimental diabetes and studies of insulin action. Now completing work for degree of Ph.D. in biochemistry. Desires appointment in department of biochemistry, physiology, medicine, or research medicine.

Available January, 1958 at completion of present fellowship. Address: A-279.

• OBSTETRICIAN GYNECOLOGIST: Aged 34, 8 years specialty training, Member of Royal College of Obstetricians and Gynacologists, wishes to emigrate to U.S. At present civilian consultant to U.S. Air Force in U.K. Interested in academic post where state licensure not immediately required. Four publications. Address: A-280.

• INTERNIST, BOARD ELIGIBLE: charity and university internship and residencies—D.N.B. —married—desires career academic position on medical school faculty—any phase of teaching, administration, research or admitting room supervision. Address: A-281.

• PHYSIOLOGIST: Ph.D., male, 35, married. Desires opportunity for research with or without teaching. Six years research experience in circulatory physiology. Teaching experience in medical and graduate physiology. Available September, 1957. Address A-282.

• PHYSIOLOGIST-ENDOCRINOLOGIST: Mature, male, Chicago Ph.D. Wide teaching, research, and research directing experience in Human, General, Endocrine, and Behavioral Physiology. Publications. Societies. Desires graduate or medical teaching position with ample time and facilities for research. Will attend Federation meetings. Address: A-283.

• MICROBIOLOGIST: M.S., University; Ph.D., Medical Sciences, Summer, 1957; 30, male, married. Three years teaching assistant in medical school course in microbiology. Four years research experience. Graduate studies include basic science course, except pharmacology, in first two years of medical school. Desires academic position with opportunity for research. Address: A-284.

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• PHYSIOLOGIST: Ph.D. Currently teaching and research in college of veterinary medicine (5 years); past experience in zoology-physiology in liberal arts college (5 years); radiobiological experience — summer 1956; publications; desire academic or responsible research position. West or midwest preferred, but other locations considered. Present rank, assistant professor. Address: A-287.

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DOCTORS ARE HAVING BIG FAMILIES TOO—planned big

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References: 1. Statist. Bull. Metrop. Life Insur. Co., vol. 37 (Oct.) 1956. 2. Kiser, C. V.: Milbank Mem. Fund Quart. 33:393 (Oct.) 1955. 3. College Study Report: Population Bull. *11*:45 (June) 1955. 4. Tietze, C.: Proc. 3rd Internat. Conf. Planned Parenthood, 1953. 5. Pärnanen, P. O.: Ann. chir. et gynaec. Fenniae Suppl. *43*:315, 1954.

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